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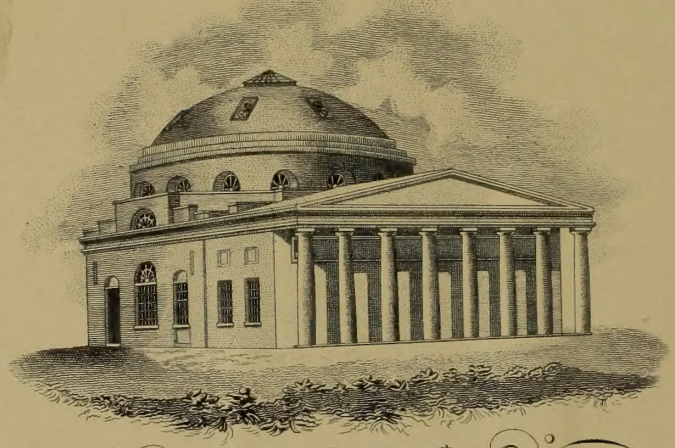

University of Maryland

University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1861 (c)

Author	Title	Notes
Uhler, John Reese	Vesico-Vaginal Fistula	(Illustrations)[1]
Perrie, Richard Baxter	Fractures of the Neck of the Femur	
Erich, Augustus F.	Inflammation	
Gardner, H.W.	Placenta Previa	
Gillam, Francis	Enteric Fever	
Garr, Benjamin F.	Menstruation	
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Templeman, James A.	Apoplexy	
Lecompte, G. Byron	Diptheritis	
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Kellam, Edwin E.	Blood Letting	

[1] Original pencil drawings: forceps, buckles.
[2] Thesis includes two title pages, both located between pages 4 and 5.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

Author	Title	Notes
Glocker, Theodore W.	Clinical Report of Cases	
Mackenzie, Thomas G., Jr.	Typhoid Fever	
Gill, William Fountain	Digestion	
Neilson, Charles F.M.	Yellow Fever	
Emory, Richard	Variola	
Fleming, Daniel L.	Rheumatism	
Diggs, Charles H.	Dysentery	

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UNIVERSITY OF MARYLAND

THESES

1861 (c)

Uhler, J. Reese	Vesico-Vaginal Fistula	16p.
Perrie, R. Baxter	Fractures of the Neck of the Femur	17p.
Erich, A. F.	Inflammation	26p.
Gardner, H. W.	Placenta Prævia	17p.
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Lecompte, G. Byron	Diphtheritis	26p.
Latimer, T. S.	Digestion	57p.
Kellam, E. E.	Blood Letting	20p.
Glocker, T. W.	Clinical Report of Cases	30p.
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Gill, Wm. Fountain	Digestion	17p.
Neilson, C. F. M.	Yellow Fever	32p.
Emory, Richard	Variola	60p.

Fleming, Daniel L.	Rheumatism	34p.
Diggs, Charles H.	Dysentery	23p.

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An
Inaugural Dissertation
on Vesico Vaginal Fistula
submitted to
the examination
of the
Provost Regents and Faculty of Physic
of the University of Maryland
for the degree of Doctor of Medicine
by John Reese Uhler.

Mb
18926

Gentlemen

To write such a thesis as will meet your approbation, I am well aware is no small task; but to write one which shall contain anything new, seems almost an impossibility. Yet emboldened by the kind consideration which you have uniformly extended, I even dare this and ask that now, as heretofore, it be meted out again. Indeed were this not assumed, it would be in vain for me to attempt to write & even now with the consciousness of your forbearance, can but illy perform the allotted task. Such as it is however, with the consciousness of many imperfections, I submit to your impartial judgment and hope that you will at least award me the merit of having striven to do my duty.

The subject which I have chosen, (Vesico Vaginal Fistula), occupies a sort of halfway ground between Surgery &

Midwifery and in consequence thereof, has been turned over from one to the other to be abandoned by both. The causes of this neglect are hard to be determined but may I think be summed up under three different heads: first, difficulty in the performance of an operation, second, want of success when performed and third, unwillingness of patients to submit to the pain and exposure which must necessarily ensue. Another circumstance, which has tended not a little to bring about this result, is the time which is required and could we inform our patients that the operation would soon be over, would quickly do away with all objections. Within the last few years, however, practitioners have awakened to the importance of the subject and reports of the various cases and treatments employed have been given to the profession through the pages of the medical journals. Within the last five years

also, Dr. Isaac Baker Brown in a small book, entitled "Some diseases of women admitting of surgical treatment", drew the attention of physicians to this and several other neglected subjects and laid the foundation for all that we know subsequently concerning it.

The disease, or solution of continuity as it may more properly be considered, consists of a fistulous communication between the bladder and vagina. Its most frequent seat is about an inch above the entrance of the urethra, though it may occur in any part of their parietes which come in contact. They vary in shape, as also in size and are said, by most authors, to be produced by the prolonged pressure of the childs head in a difficult labor. That this is often the case I am willing to admit, but think it is far more frequently caused by the negligence

and timidity of young practitioners, who, from inexperience or modesty, suffer the distended bladder to remain unrelieved, when it could be done in an instant by the introduction of a catheter. Meddlesome midwifery here also displays her destructiveness and from the over officiousness of physicians, many of whom remain during the first stage of labor in the lying in room, no opportunity is afforded to the modest patient, to attend to those calls of nature which are more than ever present at this time. Want of care in the use of instruments is also a very frequent cause of this accident and hence it is more frequently met with among the negro than white population. I have also known it to be produced by rough instruments and in one noteworthy case was told of a horrible fistula produced by a pair of forceps which had been roughly forged for the occa-

sion at a country blacksmiths shop.
The most prominent symptom is a continual flow of urine from the vulva. This does not occur as a stream, but like the leakings of a vessel drop by drop and whenever after labor, this symptom is present, we may with a great deal of certainty diagnose it as a case of fistula. That we may sometimes err is true, but will do so less in making up our minds to the worst, than in considdering it any of the other diseases of which this is a symptom. In all these cases we can satisfy ourselves by a vaginal examination and where the symptoms are well marked, for any length of time, should insist upon the same. The disease is in general characterized by but little pain and is more noticeable for its inconvenience than any danger it inflicts upon life, though in the end, from the constant irritation which is inflicted, the pa-

tient may waste away and fall a victim to some other malady. Occasionally however, where the rent is very large, the urine excoriates the neighboring parts producing inflammation and extensive sloughs and the patient quickly dies a relief to herself and afflicted relatives.

Various means have been employed, some for the relief and some for the cure of the malady and I propose to devote the remainder of this essay to the consideration of some of these. In doing this, I shall not attempt to describe all, nor give the names of their originators but hope to place such prominent items, as have been gleaned from books and acquired from observation, in that order which will meet your approbation. As soon therefore, as it is ascertained that a fistula is present, a catheter should be introduced into the u

rethra and the vagina plugged with an oiled sponge. At the same time also the patient should be made to assume the recumbent posture and if possible lie upon her breast. If the fistula is small, these means will often prove successful and where time is no object, should be resorted to before other means are tried. In general however, this treatment, from our inability to make the patients retain so uncomfortable a posture, will fail and we will be compelled to resort to the use of interrupted sutures. To apply these the patient should be laid over a chair upon which several pillows have been strapped and her legs held apart by assistants. At the same time also a speculum should be introduced and given to an assistant to be held. All things being now in readiness, the operator introduces a small piece of lead, resembling somewhat a knife blade,

through the fistula and cutting down upon it, pares the edges. After this has been accomplished the blood should be wiped away and if it continues to flow, should be stopped by an injection of cold water. When this has been done silver wire sutures are to be introduced about one sixteenth of an inch apart and are to be maintained in position by small perforated shot which are to be clamped by a forceps: much in the same manner, as boys do the leads upon their fishing lines. The ends of the wires must now be cut off even with the shot and the patient retained in the horizontal position and quiet, by the free use of opium. The bladder also must be kept empty by the introduction of a catheter and the wet bedclothes frequently changed. A modification of this treatment, introduced by Prof. Miltenber-

ger, is in my opinion the best and differs only in the substitution of a single shot, on each suture, for the two formerly used. The advantages of this operation are that it is more quickly performed than most others and consequently that it inflicts less pain. Another and very similar method, to the last two, consists in the substitution of perforated strips of lead, which are maintained in place in the same manner as the shot. The advantages claimed for this are that there is more uniform pressure upon all the adjacent parts and hence less danger to be apprehended of its not healing throughout its whole extent. Practical trials however, do not confirm these theories and hence we are no better off than before. When the fistula is very small, rest in the recumbent posture and the application of nitrate of silver or the actual cautery, in intervals of two or three weeks, will

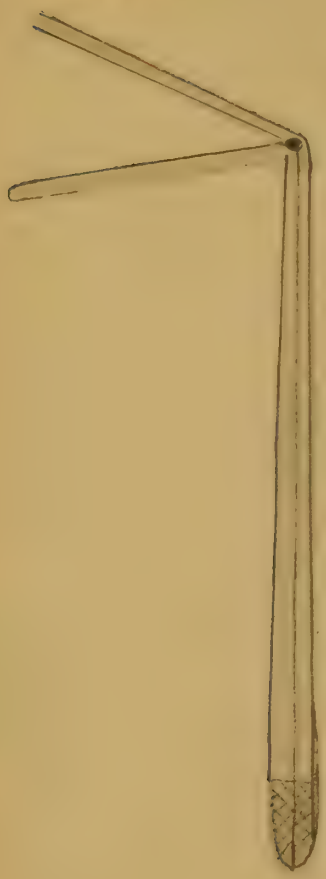
sometimes produce adhesion and when not successful, by setting up a healthier inflammation, serve as an assistant to any subsequent treatment which may be used. And finally, when all these means have been used in vain, or when the patient will no longer submit to the abovementioned lengthy treatment, recourse can be had to an instrument, which I desire to bring before you. It comes in the modest garb of the invention of a student and the humble author of these lines is he who contrived it. Allow me then gentlemen to speak a little freely concerning it and give its history.

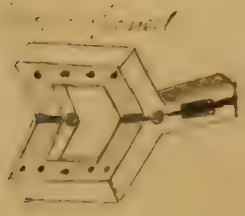
Several months ago the idea occured to Doctor H. B. Livermore of employing mechanical sutures to close vesico and recto vaginal fistulas and last March Jackson endeavored to make the apparatus which he had devised. After laboring on it several weeks and finding it im-

possible to make it work the project was
abandoned. While in Baltimore the Doc-
tor explained his idea to me and asked
my opinion concerning it. Not at the
time appreciating it's importance and
having never met with a case of fistula
I did not give him much encouragement
nor did I think that it would prove
of much consequence. Still willing, how
ever, to afford him every facility, I accom-
panied him to the instrument ma-
kers and when he left the city, took
charge of its construction. In spite of all
my endeavours, however, the instru-
ment would not work and as I said
before, was abandoned.

The main difficulty arose from the
delicate and complicated character
of the instrument, which, when the
attempt was made to work it, snap-
ped to pieces or remained entangled in
the tissues. The matter rested here
with the sight of cutting the middle

of august when a patient laboring under the malady was admitted to the Infirmary. Dr. Farnandis then in charge of the house operated upon her in the manner which I secondly described and reduced the fistula, which had been a large one, to the size of a small crowquil. Subsequently he applied two more sutures and still farther reduced the opening. Shortly after this second operation, which from the clumsiness of the aparatus and difficulty of reaching the part, occupied the greater part of an hour, all of which time the patient lay exposed with her head downwards, a disgusting and suffering spectacle, the idea suggested itself of employing the mechanical suture in a new and less complicated way. Accordingly, after pondering upon it for several months, I ordered the aparatus which may be seen on the following page.





It consists essentially of two pairs of forceps, or a forceps and buckle and for convenience, I shall first describe these separately and then explain their action when combined. The first, is about five inches long and shaped, when closed, somewhat like the letter Y with its lower straight part bent at a right angle. At the vertex of this angle, it works upon a pivot and by pressing upon the handles opens the same as any other forceps. The width of the one before me is about half an inch, though they can be made larger or smaller to suit the circumstances of the case and as it is intended to act mostly by its obliquity, will be found a matter of no great moment, provided it is not too small to dilate the tissues or too large to enter the fistula. The second, is a broad slender forceps armed at the extremities of the blades, where they come in contact, with several small projecting teeth, standing prom-

ment about ½th of an inch and resembling the points of pins. The blades of this are kept closely in contact by small powerful springs placed between the handles.
Its application is simple and its mechanism so plain that a child could comprehend all its workings. Nevertheless as my description will not be complete without I shall at once proceed to combine it and give the manner in which it is used
The former indication is fulfilled by slipping the small forceps upon the closed blades of the larger till it comes to the point where the latter works upon its pivot. Thus prepared, the closed blades of the larger forceps are to be thrust through the fistula into the bladder until the buckle comes in contact with the outer parietes. The handles of the larger instrument are now to be compressed and the instrument dragged forwards by

the left hand. Then, taking a scalpel in his right, the operator can with the greatest ease pare the edges of the tense tissues. After this has been done the instrument is to be drawn still more forcibly forwards, causing the tissues to bulge and the small forceps opened and pushed firmly against them. Pressure is now to be taken from the handles of the small forceps allowing it to spring catching the tissues firmly between its teeth and the larger ones are to be gradually relaxed and drawn out. The operation is now performed and a catheter is to be introduced to keep the bladder empty. The indications which it fulfills are the same as those which are accomplished by sutures and possesses no superiority over them in healing up the rent. The great desideratum, calling for its employment, is the

time which is saved both patient and practitioner and the ease with which it can be again applied when unsuccessful. So far I have had no opportunity of testing its merits but would naturally think, that fulfilling, as it does, all the indications theoretically, it would not be wanting in practical value. In relation to the constitutional treatment of this malady a very grave and fatal error has crept into the minds of practitioners. I refer to the starving plan adopted by some to keep down inflammation. This ought never to be tried but its opposite should be insisted upon and the patient encouraged to eat good nourishing food. This constitutes all that I have to say concerning this malady. If I have erred in what I have undertaken and in bringing this be

fore you seem to be fussing myself would
beg you considder, not for my own ag-
randizement do I work, but for the good
of my fellow creatures and if I have done
aught which will tend to their ben-
efit shall be amply compensated by
that knowledge.

An
Inaugural Dissertation
on
Fractures of the neck of the Femur
Submitted
to the examination of the
Provost Regents & Faculty
of Physics
of the
University of Maryland
For the Degree of
Doctor of Medicine
by
Richard Baxter Perrie
of
Maryland

Fractures of the neck of the femur

These fractures are of more frequent occurrence than any others in the human body, and are undoubtedly owing to the position, structure and office of the bone. They may be divided into fractures internal to the Capsular ligament; fractures external to the Capsular ligament; and fractures of the Trochanter Major. We also sometimes have Comminuted fractures partly internal and partly external to the Capsular ligament. But these are very rare.

First- Fractures internal to the Capsular ligament.— These may be either transverse or oblique in direction. They are generally by indirect violence; that is by some force acting upon the legs, as from slipping off the pavement jumping &c., Sometimes however they are produced by falls

or blows on the hip. They are more common in old persons. Which is owing to the bone containing more earthy matter than animal They are likewise more common in women than men. This is owing to the neck of the bone being longer, and more at a right angle in the former than the latter.

Symptoms— After receiving an injury the patient finds himself unable to use the leg in any way, and complains of pain in the part, increased by motion. There is also swelling, with shortness of the leg of about one or two inches. This sometimes however does not take place, for two or three days from the time of the injury. This sometimes causes the surgeon to make a wrong Diagnosis if unexperienced

in the treatment of such injuries. The knee, and foot are turned outwards, with the heel resting in the interval between the ankle and tendo Achillis of the other leg. Crepitus may be detected if the hand or the stethescope be placed on the trochanter, whilst the limb is drawn to its proper length and rotated. The trochanter generally projects less than on the other side and the limb may generally be freely moved, although with great pain, especially if it is abducted.

Diagnosis — This is often very difficult to make correctly. The injuries most apt to be confounded with these fractures, are dislocations of the head of the femur backwards into the sciatic notch

and downwards into the Obturator foramen.

In the former dislocations we have the knee and foot turned outwards the trochanter is behind its natural position, and the head of the bone can barely be felt. Whereas in the fracture we have the foot turned outwards as above described, in the latter dislocation the limb is much longer than in the fracture.

Fractures external to the Capsular ligament— These are of more common occurrence than fractures internal to the Capsular ligament.

Causes— Unlike fractures internal to the Capsule, these are most always caused by direct violence such as severe blows or falls on the hip, by which the neck of the bone is driven into the cancelli of the trochanter major

It may occur to persons of any age; whereas the fracture internal to the capsule very rarely happens before fifty.

Symptoms— After receiving an injury of this kind, the patient is immediately rendered incapable of using his leg. There is a prominence of the upper extremity of the bone, caused by the action of the Psoas magnus and Iliacus internus muscles. There is also crepitus much more distinct than in fractures internal to the Capsule. The foot is also turned outwards, but there is not so much shortness as in the fractures internal to the Capsule.

Diagnosis— This resembles fractures internal to the Capsule in many points, but differs from them in the following.

First— In consequence of being

most always the result of direct violence. It is attended with a great deal more pain and fever
Second – There is not so much shortening and eversion.
Third – Crepitus is much more easily felt because the shortening is not so great.
Fourth – There is always the prominence of the upper extremity of the fragment, though sometimes unperceived, in consequence of the immense swelling which sometimes occurs.
Fractures of the Trochanters &c is –
These fractures are not very uncommon. They generally happen to adults and are caused by direct violence; such as severe blows upon the hip. These may also sometimes be caused in the reduction of dislocations of the femur upwards upon the

dorsum of the ilium.
Symptoms — After receiving an injury of this kind the patient immediately finds himself incapable of abducting and rolling his thigh outwards.
On examining this injury, if soon after its infliction before much swelling takes place, the Surgeon finds a depression at the natural position of the trochanter, major and an elevation above. This elevation is caused by the dragging upwards of the trochanter, major, by the action of the Gluteï, muscles.
Diagnosis — These fractures are generally not very difficult to diagnose, though when there is a great deal of swelling, they are sometimes mistaken for fractures of the neck internal to the Capsular ligament. They may

however be distinguished, from the complete inability of the patient to abduct the thigh.
Compacted Fractures — These are not of rare occurrence, and such injuries of the neck of the femur generally take place, partly within and partly without the Capsule. In these cases the prospect of union, is much more favourable. These fractures are called compacted fractures, from having the extremity of one fragment driven into the cancellated structure of the other.
Causes — They are produced by great direct force, and are attended with a great deal of pain and constitutional disturbance.
Symptoms — The limb is rendered useless to the patient at the time, owing to the severe pain experienced, when he at-

tempts to use it. There is also some shortening; the displacement however, is generally slight, and there is considerable motion of the leg.

Diagnosis — This is often difficult to make correctly, and frequently the Surgeon does not find out the nature of the injury at all. However this makes but little difference, as will be seen by the treatment. This injury will however be more likely mistaken for that of the fracture of the neck external to the capsule from the absence of crepitus in this which is as I have described so frequently the case in that.

Treatment — Since this conducted upon the same general principles in all of these fractures. I thought it necessary to give a gener-

al description of all the different varieties, with their Causes, Symptoms, and Diagnosis first.

First— Treatment of fractures internal to the Capsular ligament In the treatment of these fractures, it must first be recollected, that they hardly ever unite by bone, except in a very few instances, and in these instances it is supposed, that true fracture never existed. This has been ascertained by the examination of the bone after death. The reason why this bony union can not take place is evident from the following reasons.

First— On account of the diminutive nutrition of the upper fragments, which is only supplied by the small vessels of

the Ligamentum Teres.
Secondly— Because the fracture being separated from the cellular tissue by the Capsular ligament, cannot be assisted by a provisional Callus, as other fractures are. However the surrounding tissue does throw out a secretion which is converted into a callus. But this being deposited outside the Capsular ligament is prevented from assisting in the work of reparation.
Thirdly— Because the fractured surfaces can not be kept in contact owing to their position.
Fourthly— Because happening as it most always does in old and worn out constitutions, they have neither time, nor constitution

al things to effect the cure. Therefore un general ligamentous union takes place, or what is more common does not unite at all. But nature so brings about a change in the part, that it is capable of supporting the body, and becoming again of natural use to the patient, but not without some deformity. Now it is evident from the above statistics, that we should not promise our patients too much in the treatment of such fractures.

The principle indications in the treatment of these fractures are,

First— to keep the fragments in true apposition to each

other. Secondly— To prevent displacement.

Now to accomplish this, it is necessary that we should make use of some mechanical apparatus, of which we have many different kinds, as made, and used by different Surgeons. But the one in general use and answering the purpose better than any other, is that of Professor J. L. H. Smith. The fragments being [illegible] in apposition with each other the leg should be put in this apparatus in a semi-flexed position, taking care that the heel piece should be carefully adjusted, as this is of the greatest importance in this fracture, also for the comfort of the patient

to have the apparatus well
packed. The whole is next
to be well bandaged, and
then suspended from the
wall by means of the cord
attached to this apparatus.
The object of this is to keep
up gentle extension, and
to prevent displacement whilst
the patient may move in
bed with perfect ease.
This being done, the patient
is to be kept a horizon-
tal position until union
takes place. In favourable
cases this is generally accom-
plished in from twenty
to thirty days. Should
any unpleasant feeling
be experienced during this
time, the bandage may
be removed and the cause
obviated.

Treatment of fractures exter-
nal to the Capsular ligament.
The principle indications
in the treatment of these
fractures, are the same as
those of fractures internal
to the capsular ligament
with one important excep-
tion, which is the necessity
for the proper adjustment
of the thigh piece of the
apparatus, which presents
the riding of one fragment
of bone upon the other which
happens in these fractures.
This being done, the appa-
ratus, is to be well padded
bandaged and suspended
by means of the cord to the
wall as in other fractures
of the thigh. The leg is to
be kept in this condition
until bony union takes

place which generally is accomplished in three or four weeks. There not any unpleasant feeling be experienced by the patient during this period by the improper adjustment of the apparatus or the padding, the bandage and thigh piece may be removed, and the cause obviated.

Treatment of fractures of the Trochanter, major.

In these fractures the limb is likewise to be put in the apparatus, but the leg is to be abducted to prevent the displacement of the fractured bone, which has a tendency to be drawn upwards by the action of the gluteal muscles. with this exception the treatment must be

conducted precisely in the same manner as other fractures of the leg.

Treatment of complicated fractures of the neck of the femur. — The indications for treatment of these fractures are the same as the others of the neck. The leg is likewise to be placed in the apparatus and carefully managed through the process of union which in favorable cases generally takes place in from three to four weeks.

An

Inaugural Dissertation

on

Inflammation

submitted to the examination

of the

Provost, Regents and Faculty

of Physic

of the

University of Maryland,

for the degree of

Doctor of Medicine

by

Augustus F. Erich

of

Maryland.

Inflammation.

The metaphorical expression inflammation, destined to represent a morbid state in which the parts appeared to burn etc, was created in the infancy of medical science, and has become so very vague, and its interpretation so arbitrary, that it really has lost all value, and ought to be removed from the medical nomenclature; as it only causes error and confusion. To meet this difficulty, the term exudation has been introduced into modern pathology. It expresses not only the act of liquor sanguinis passing through the walls of blood vessels, but also the fibrinous parts of the liquor sanguinis itself, after

it has coagulated in any tissue, or organ of the body. The exudation of liquor sanguinis is a demonstrative fact; it gives rise to a definite issue, and expresses all the changes in the circulation, to which the name inflammation could have been rationally applied; for none of the preceding changes, either solitary, or collectively, have ever been considered to constitute true inflammation; and as it likewise does away with all the confusion, that has resulted from confounding mere symptoms, with the ultimate conditions upon which these symptoms depend, we are compelled to admit that it

[illegible] to be universally accepted.

All the phenomena connected with exudation, may be studied with ease, by the aid of a microscope, in transparent parts of animals, as the tongue or the web of the foot, of a frog; on the application of a drop of dilute acetic acid: strong acid creates too much excitement, and the changes in the circulation take place too rapidly, to be perceptible. They occur in the following order:

1st, the capillaries contract, and the blood flows rapidly through them. The coloured corpuscles move in the centre of the tube, leaving clear spaces around it, which are

filled with liquor sanguinis, and a few colourless corpuscles. There appear to be evidently two currents, that in the centre being much more rapid, while that near the walls of the vessel, moves on but slowly. Some of the colourless corpuscles, get occasionally into the central current and are then seen to start off with great velocity; others adhere to the walls of the vessel.

2d, The capillaries dilate and the blood circulates with diminished velocity. The central column enlarges gradually and encroaches more and more upon the clear or lymph spaces; as they are sometimes called, and the colourless corpuscles

begin to adhere more permanently to the walls of the vessels.

3d, The circulation becomes irregular; the blood oscillates forward, and backward. This oscillation however has not been observed in man, and depends probably upon weakness of the heart in the frog.

4th, The capillaries become completely distented, and the circulation ceases. The central column of coloured corpuscles, has now extented to the walls of the vessel, which appears to be filled with a homogeneous fluid; the corpuscles having been subjected to so much pressure, as to loose completely their original

pain. Large arteries may now be seen throbbing distinctly.

5th, Liquor sanguinis exudes through the walls of the capillaries, and at times some of them are ruptured, and blood is extravasated.

These are the established facts that present themselves in this connection. The most plausible theories, that have been advanced, are the following: The contraction and the dilatation of the capillaries, have been explained by supposing them to be endowed with contractile power, analogous to that of involuntary muscles. This supposition has been confirmed by all recent histological

researches, which have shown them to consist of a delicate membrane, in which permanent nuclei are imbedded, resembling in structure the muscular fibres of the intestines, and being like them, contracted and dilated by certain emotions of the mind. This is most conclusively proved by that singular phenomenon occurring in the capillaries of the face, with which we are all familiar under the name of blushing. The experiments of John Hunter, led him to believe that they were muscular, and Bell thought that the contraction of these tubes, was analogous to spasm, and their dilatation to, either relaxation

following such spasm, or to muscular paralysis. The latest observations of M. Bernard, and others, as to the effect produced by dividing the large sympathetic nerve in the neck, have also confirmed that theory.

The rapid and slow movement of the blood is explicable on the common hydraulic principle, that if a quantity of liquid is propelled through a tube, and the size of the tube be diminished, or increased, while the propelling force remains the same; it will flow more rapidly in the first case, and slower in the second.

More difficult to explain is the stoppage of the blood and the exudation

of the liquor sanguinis, as there exists evidently no mechanical obstruction to the flow of the blood. The only obstruction that has been thought to exist, consisted in an increased formation of colourless corpuscles, which adhere to each other, and to the walls of the capillaries, and thus interrupt the circulation. This has been completely disproved by the following facts:

1st, In young frogs the circulation may be seen to be crowded with these colourless corpuscles, while the circulation is not in the least affected.

2d, In old frogs oscillations in the stages of the blood may be seen

to tumefaction, without the presence of colourless corpuscles.

3d, After large venesections, and in cases of leucocythæmia, the colourless corpuscles are much increased, without any coagulation or exudation.

This theory having been abandoned, an attempt has been made to explain these changes, by supposing that the attractive and selective forces, with which all tissues are endowed and by which substances are drawn from the blood-vessels to the surrounding tissues for the purposes of nutrition and secretion, have undergone a modification, in cases

quence of which, the attractive force is increased, and the selective, diminished. As a result of this modification, the coloured blood corpuscles are drawn to the walls of the capillaries, and adhering to them, obstruct the circulation, and finally arrest it; the liquor sanguinis, attracted by the same force, passes through the walls of the vessels.

This view appears to be very plausible, it is however difficult to conceive, how an attractive force, can transfer substances beyond the limits of the tissue in which it resides, which necessarily must take place, in cases of bleeding, for instance

where there is no tissue within the serous cavity which could attract the exudation. This act has much more the appearance of being the effect of an expulsive, than that of an attractive force, and bears so much resemblance to common effusion of serum, that it appears to be more reasonable, to attribute both to the same, or similar causes, especially as the difference between the results can easily be accounted for by the difference of the circumstances under which they are acting.

Effusion of serum has never been attributed to an attractive force exerted by the surrounding

tissues. It seems to be peculiar to the veins, while exudation of liquor sanguinis is peculiar to the capillaries. It takes place whenever the circulation in the veins is mechanically obstructed or interrupted, and depends in a great many instances upon a modification, either in the power of transmission of the walls of the veins, or the consistency of the blood. Eto for instance in cases of dropsy in the inferior extremities of pregnant females, and in anaemia.

Exudation of liquor sanguinis takes place whenever the same causes act upon the capillary circulation, the difference in the exudation from

merely upon the extreme thinness of the walls, and other peculiarities of the capillaries; in consequence of which many of the constituents of the blood are transmitted by them, which could not pass through the walls of the veins.

The stoppage of the circulation in these vessels, can also be explained without having recourse to these mysterious forces, supposed to reside in the surrounding tissues. It is now an established fact, that the circulation in the capillaries depends chiefly, if not principally, upon the actions of the capillaries themselves, not upon that of the heart. It is obvious

therefore that the circulation must cease, as soon as the capillaries cease to act, and that they do not act; but are in a state of exhaustion or paralysis, when the stoppage in this place is equally admitted.

This exudation having taken place, the fibrin of the liquor sanguinis coagulates, and acts as a foreign body upon the surrounding tissues. It is highly interesting to observe how nature removes it, or renders it conducive to the wants of the system. She accomplishes it in one of two ways, either the coagulated exudation becomes organized, new structures being formed in it,

or the exuded matters, as well as the structures involved in them viz. the first is what is commonly known as resolution, and the second as mortification or gangrene, and if the process proceeds more slowly, as ulceration. These changes differ according to the structures that are affected. In a serous surface, and where recently formed, it presents a gelatinous semitransparent appearance, and if more closely examined, minute filaments and nuclei may be observed in it. These fibres are not the result of cell formation, but of simple coagulation, analogous to that of the buffy coat of the blood. The corpuscles

although very slight and transparent when first formed, soon become more distinct, and consist of a cell wall enclosing from three to eight granules. After a time most of these corpuscles disappear among the fibres, a few however remain to form permanent nuclei. Now after bloodvessels are developed, and villi appear upon the surface of the exudation, each villus contains one or more loops of bloodvessels, which now begin to absorb the fluid contained within the sac. As soon as that has been accomplished and the surfaces are brought in contact, they adhere firmly, and permanently.

If it occurs on a mucous surface, it does occasionally present a fibrous mass; as in cases of croup, and diphtheritis; but more generally it appears, or is formed into a yellow, creamy, and opaque fluid commonly known under the name of pus. If occuring in cellular tissue, and occasionally in the brain, the same phenomena take place, and constitute then what is called an abscess.

On examining pus more closely, we find it to be insoluble in water, but readily mixing with it; it has no odour, but a slightly sweetish taste. It is not corrosive, but bland and therefore a good protective to tender

granulations, until covered by cuticle.
It consists of numerous corpuscles
floating in a clear fluid. They are perfectly
globular, their surface is finely granular,
they have a regular well defined edge;
and vary in size from 1/2000, to 1/1200
of an inch in diameter. Water
removes their granular surface,
and increases their size, and renders
them more transparent. Strong
acetic acid removes their walls by
dissolving them, and exposes the
contents, consisting in three or four
granules, each with a central
shadowed spot; measuring generally
1/3000 of an inch in diameter. These
cells, if not evacuated externally, after

and are eventually absorbed, and finally excreted from the body with the urine. The abscess is then said to be resolved.

In parenchymatous organs, the exudation fills up all the interstices, so that when it coagulates, the elementary tissues are completely imprisoned by it, and their functions consequently much impaired, if not interrupted. This is well illustrated in the lungs, where however the mucous surface is so extensive, that the exudation is commonly transformed into pus. In the brain, spinal cord, and placenta, we find it deposited in the form of minute

granules, cells, and homogeneous masses, producing there what is denominated softening. The changes taking place in it under these circumstances, are not well understood. The history of some well recorded cases renders it however highly probable, that it may be absorbed, and followed by complete recovery.

In healing wounds, a part of the exudation may be seen to be transformed into cells, and these into fibres etc.. Indeed the process of cicatrization in its various stages, affords the best means of studying the manner in which nuclei, and cell fibres, are respectively formed. A large proportion

of the exudation escapes as discharge, but serves as a protection to the more and tender structures, before it is thrown off. When the fibrous structure becomes more firm, the secretion of pus diminishes, until it is entirely arrested. All the remaining exudation, is transformed into fibres, which contract, and form the cicatrix.

Exudation may be acute, or chronic, according to the condition of the system at the time, and the cause which produces it. In the first case, it is generally accompanied by pain, heat, swelling, redness, and impairment, or interruption of the

functions of the affected part; in the second, many of the common symptoms are frequently absent, so that the morbid process may be progressing to a most dangerous extent, without even exciting the suspicion of the patient.

It would be unnecessary to offer an explanation for these symptoms, as it must be evident to all, that they supervention the presence of the exudation.

The causes of this affection, are extremely numerous, they can however be reduced to one ultimate one, and that is irritation. Whatever irritates a part, whether vitally, chemically

or mechanically, is capable of producing
circulation, provided the effect be of
sufficient intensity, and circulation.

Treatment.

This ought to consist in the
fulfillment of indications, based
upon conclusions, drawn from the
foregoing facts; and should also
be influenced by the stage of the
disease. The chief indications are:

1st, to prevent, or diminish the
circulation.

2d, to assist nature in removing it
from the system, or in rendering
it useful to the economy, when
it has been coagulated in some
of the tissues.

The first, is to be accomplished by means of cold and astringents, causing contraction of the relaxed and dilated capillaries.

The second can be fulfilled by means of warmth, moisture, stimulus, nourishment and anything that favors cell growth, this being the manner in which nature rids herself of these morbid products. In addition to this the excreting organs ought to be stimulated to increased action, by their proper stimuli, to cause a speedy removal, of the absorbed products of the oxidation, from the blood, and thus lessening materially the process of absorption. The general excitement

of the circulation & nervous system, may also require treatment. This should consist in the exhibition of nervous and arterial sedatives. The most prompt and certain of these, is undoubtedly venesection. It is however almost always contra indicated, on account of its permanently debilitating effects.

Numerous modifications of treatment may be required in individual cases, which can however be studied more profitably, in connection with each special disease.

An
Inaugural Dissertation
On

Placenta Previa;

Submitted to the examination
Of the
Provost, Regents and Faculty of Physic
Of the
University of Maryland,
For the degree of
Doctor of Medicine,
By
H. W. Gardner
of N. Carolina

Feb. 14th. 1861.

Gentlemen.

Among such a diversity of subjects as the science of Medicine presents, and so many of such vital importance to the Student; it is not an easy task to select one to which his limited opportunities shall suffice to do justice. He should equally avoid those which though important in themselves, require more research than he can well spare from the more practical duties of his profession, as well as those which are still involved in mystery, and which his feeble pen would contribute still more to render obscure; Thus equally avoiding Scylla on the one hand, and Charybdis on the other, let him select such a one, the knowledge of which

will be of inestimable benefit to him, in cases of emergency which may arise. In view of these facts, I thought I could not better employ my time, than in the consideration of that most formidable cause of puerperal hemorrhage: Placenta Previa.

Placenta Previa, or the implantation of the placenta over the cervix uteri, is not so uncommon an occurrence as was formerly supposed, when the after-birth was found in this situation; by most of the earlier Obstetrical writers it was thought to be merely an accidental complication, in which it had become detached from the fundus, and had fallen in this situation; Lever arrived at the correct conclusion concerning it.

and accurately described it; but to Dr Rigby, is due the credit of bringing it prominently before the Profession, and demonstrating its importance.

Various reasons have been assigned, why placenta previa should be attended by hemorrhage; according to nearly all writers; it has been supposed that about the sixth month of utero-gestation, the cavity of the womb not being large enough to contain the rapidly growing foetus, the cervix uteri begins to enlarge, and spread out to accommodate itself to this condition; and the placenta not keeping pace with this rapid growth, the utero-placental vessels are ruptured, and hence we have necessarily hemorrhage. But this theory will not explain the flooding in those cases, in which

the afterbirth is implanted adjacent to the OS; and besides, I think M. Cazeaux has clearly shown, that this spreading out of the cervix, does not take place, until the last two or three weeks of gestation; his solution of the question seems to be more plausible; he says, that the fibres of the neck of the womb do not enlarge in the same ratio, as those of the fundus during the first six months of gestation, but are developed more rapidly during the last three months; and as the placenta is developed more rapidly during the first six, than in the latter months; the quick development of the fibres of the neck at this time, breaks up the adhesions between the placenta and womb, and hemorrhage occurs.

But there are cases recorded, in which hemorrhage occurred neither after, nor during delivery; but this was thought by Moreau, to be on account of the coagulation of the blood in the placental vessels, which takes place in consequence of the death of the child, which almost invariably happens in these cases.

We next come to its diagnosis; it can hardly be confounded with hemorrhage from any other cause. 1st It never occurs before the end of the sixth month of gestation; the amount of blood lost, may be small at first, and it may then cease for some days, or weeks; but the flooding occurs again, being perhaps more profuse; if this be taken in connection with the fact that

there was no adequate cause to produce the hemorrhage; placenta previa should be suspected. 2. The blood, according to Dewees, is of a brighter red color, than when it comes from the fundus, and is not thrown off in coagula. 3. When we examine by the touch during labor, the bag of waters do not present, but a soft, spongy, fibrous, and lobulated mass is felt blocking up the Os. 4. When uterine contractions have commenced, the flooding occurs during the contractions, and ceases during the intermission, this is exactly the reverse in other hemorrhages, as the contractions of the womb obliterate the patulous vessels, whereas in placenta previa, they tear up the placental adhesions by dilating the Os. ~~The~~ some difficulty may arise, in diagnosing a firm coagulum from the

after-birth. But, if we bear in mind that a coagulum is more soft, and easily penetrated by the finger, & that the placenta is fibrous and lobulated, we can hardly be deceived.

We are likewise liable to be mistaken in regard to this accident, when the placenta is adjacent to the os. When the finger is inserted, we feel the membranes with the contained waters, but not the after-birth. If however we sweep the finger around the os, as far as we can reach, we will generally come in contact with the edge of the placenta, or the membranes will be thicker on one side than on the other, marking the place where it is attached.

These then are the most distinctive diagnostic signs of this grave complication:

but; the evidence furnished us by the touch, is the most conclusive, and clearly marks the complication, with which we have to deal; & till, the others that occur in the earlier months of pregnancy, are valuable, as the flooding so frequently happens, endangering the lives of both mother, and child; and it is extremely necessary, that; one should form our diagnosis sufficiently early, that we may advise those means, which may put the mother in comparative safety, from any alarming flow that may occur.

The prognosis of Placenta Previa, is very grave; perhaps more so, than any other cause of Puerperal hemorrhage. Of 174 cases collected by Dr Churchill, 48 were fatal to the mother.

and of 399 collected by Dr. Simpson, 113 died; a mortality, scarcely inferior to the ravages of malignant cholera. There are recorded cases, in which the first flooding was so excessive, as to cause immediate death. Another cause which will render the prognosis unfavorable; is, when the woman is feeble, and anaemic, so that a moderate flooding, might bring on a fatal syncope. There should also be care for apprehension, when the os remains rigid, resisting all our efforts at dilatation while the life blood of the woman, is fast ebbing away. Not only is the prognosis grave as respects the mother, but also in regard to the child; we know that the foetus depends for its nutrition, on the vascular connections which exist between the placenta on the one hand,

and the uterus on the other; and as these are severed by the rapid development of the cervix, the child must lose more or less of its nutrient-fluid, according to the degree of separation from its uterine connections; and as the drain is more copious when we have the placenta centrally placed, we should then expect in this variety, the consequences to be far more fatal to child, than when it is situated adjacent to the Os.

We have next to consider the Treatment. If called to a case of puerperal haemorrhage during the latter months of pregnancy, and the flooding is not excessive, or immediately dangerous, we should avoid all vaginal examinations, and treat it as a case of simple haemorrhage, viz; the patient should be placed

in a cool, and well ventilated apartment; having she should lie on a hard bed, with her pelvis elevated, and being lightly clad, cold acidulous drinks should be administered, and cloths wrung out of cold water, or vinegar and water, applied to the hypogastrium. if these should fail, Acetate of lead in combination with Opium should be ~~resorted~~ given internally, and astringent injections thrown into the vagina; if the hemorrhage continues, we should then make a vaginal examination, and if found to be a case of placentia previa, we should use those means, which will be treated of subsequently.

Should we be called to a patient ~~case~~ when labor has set in, and we should diagnose the case as one of the simple form of placenta previa, i.e: when the

placenta is adjacent to the os: and we find a vertex presentation, with the pains strong and active, and the os uteri dilated we should leave the case to nature, as the presenting part of the child, would then close the pataleous vessels, and the flow would be generally checked; if however, we should fail in our attempt to stop the hemorrhage, we should rupture the membranes, and exhibit a full dose of ergot; this mode of treatment has been objected to by some, because they say the rupture of the membranes, would there render it extremely difficult to turn, if we found that operation necessary; but the obvious answer to this objection is, that if the womb is so contracted by the use of the drug, that it is extremely difficult to introduce the hand, the flooding would

be effectually controlled; whereas, if the os continue, the laxity of the uterine tissue, would allow us easily to effect version. We should however bear in mind the contra-indications of ergot; and never exhibit it, unless the pelvis is of normal size, the child not larger than the natural standard, with a natural presentation, and the os uteri dilated, or dilatable. If this mode of treatment should fail, we should proceed immediately to turn and deliver. This should be done by introducing that hand which corresponds to the abdomen of the child; seizing the nearest foot or knee, and bringing the body of the child quite in the excavation. Before we release our hold. We sometimes meet with cases, in which the head is too far

down in the vagina, to complete the labor by version; we should then deliver with the forceps.

We have now to consider that variety in which the placenta is centrally situated; in such cases, if called before the setting in of labor, and the flooding is moderate, we should proceed as in the simple variety; if, however, labor has already commenced, we will always find it necessary to interfere, and that very promptly; for the hemorrhage must be necessarily great; as the dilating os as it expands, unavoidably ruptures the utero-placental vessels. Finding this state of things, and the os uteri is dilatable, we should introduce the hand on that side of the womb, where we find the border of the placenta is the thinnest, and seizing the

child by the feet. Bring the body gently in the vagina, if the flooding is arrested, and the pains are strong, we should then leave the case to nature; if not, deliver as promptly as possible. We are sometimes called to cases, in which the hemorrhage has been excessive, that the woman has become completely exhausted, the question arises, What shall we do in these cases? to turn and deliver would hazard the mother's life, by inflicting too great a shock on an already enfeebled body; when we meet with such, we should build up the system by tonics and stimulants, and give ergot to produce contraction of the womb, and never attempt delivery, until the woman has recovered from her exhaustion.

Another difficulty, which sometimes presents itself in this variety of

placenta previa, is, where, from the rigidity of the os, it is impossible to introduce the hand in order to rupture the membranes. It has been advised, to perforate the placenta by a catheter, and thus rupture them; but the laceration of the placental vessels, would certainly prove fatal to the child, and for this reason it is objectionable. We should then have recourse to the tampon, as here there would be no contra-indication to its use, as we could not possibly have an internal hemorrhage, as the placenta blocks up completely the os. and also fulfills the important indication of dilating it.

Now if all the methods of treatment enumerated should fail; and the woman is in imminent danger we should adopt the "dernier resort" of

the great Edinburgh Accoucher, and
separate the placenta entirely from its
uterine connections, it matters not how
modern Obstetricians may regard this
mode of treatment: the testimony in its
favor, as regards its efficacy in checking
puerperal hemorrhage, is too conclusive
to admit of a doubt: and; I think, too
much praise cannot be bestowed on
Prof: Simpson, for bringing before the
profession so simple and efficacious a
~~remedy~~ means in the treatment of this the
gravest accident: which can happen to
the parturient woman.

An Essay

On Enteric Fever

Submitted to the reading

Of the

Provost, Regents and Faculty of Medicine

In the

University of Maryland

For the

Degree of M. D.

By

Francis Dillard

Of N. Carolina

Enteric Fever

It has been said — When doctors disagree disciples are free. Hence, following the preference of Sherwood, Enteric has been selected as the distinguishing prefix under which the present disease will be treated. A host of names has been suggested for this peculiar fever, none of which are entirely free from objection. The discrepancy in the nomenclature of this affection arises from the fact, that its special cause and peculiar seat, if such there be, still remain hidden from the anxious eye of science. Typhoid, which was proposed by Louis and now generally accepted by medical men, is open to the charge, that it will cause misconceptions in the minds of some with reference to the distinction between proper Typhus and Typhoid fevers; — causing them to believe, by the name, that there exists no difference in kind but merely in degree, that Typhoid is only a mild form of Typhus, bearing the same relation to each other, that variola does to varioloid. The essential difference between

these two febrile affections is now admitted by all; therefore, it would seem better to avoid even a tendency to confusion, by conferring upon the disease under consideration a simple, yet distinctive title. Again, "Typhoid is to some extent a generic word, indicating a condition of the system common to many diseases, and as such should not be used to designate a special or individual affection." Nervous Fever is, perhaps, more appropriate than the preceding appellation, since nervous derangement is certainly a very prominent feature in this disease; yet it would not be in accordance with the rules of a correct nomenclature, to characterize a particular fever by a symptom which enters into the very elementary definition of fever. It would be just as consistent to say hot-fever as nervous fever.

Stothienteritis, as proposed by Bretonneau, means an intestinal inflammation accompanied with pustules. "This name is to be avoided on account of its learned length and thundering sound;" also, because it conveys the idea that pustules are the sine qua non of the disease:

which opinion is not substantiated by post mortem investigations. Enteric, which has been modestly proffered by the Wood, appears to me least objectionable of all, notwithstanding it has met with rather poor reception among medical men. This may be owing to the disposition in the medical world, as in other branches of science, to plod the track which custom has made. Some have objected to Enteric on the ground that more or less disturbance in some portion of intestinal canal occurs in every fever: this may be so, yet the objection loses its force, when it is remembered that no other fever is so preeminently marked by the intestinal lesion, and especially in the region of Peyer's glands. However, it is not worth while to raise a storm about this matter, for we do not treat names but diseases.

1st - "The phenomena of this fever vary considerably in different individuals, yet there is generally an association of symptoms which if rightly observed will lead to a correct diagnosis. According to the observations of most writers on this subject, the approach of

the disease in a majority of instances is gradual, stealing upon the victim so insidiously as scarcely to arouse him to a consciousness of his condition. Again, it is ushered in suddenly with a chill, followed by the usual symptoms of fever. During the former mode of attack the patient, for several days previous to confinement, experiences a general debility of the physical system, - stupidness, indisposition to action and some dullness of intellectual powers, - the countenance wearing a listless expression. Sometimes there is a sensation of soreness in the muscular system; the appetite is impaired though not destroyed, the skin loses its natural moisture, and the tongue becomes thinly coated with a white fur, often in this early stage there is some pain in the back and head. These preliminary symptoms continue to increase for several days until the morbific agent has fully mingled with the life current and poisoned its every drop. The heat now becomes more intense, often burning, the dryness is also augmented; the pulse though sometimes only moderately accelerated and quite natural in point

of fulness, is at other times small and rapid, amounting in certain cases from 120 to 140 pulsations in a minute. The head ache is now apt to be increased, and a slight delirium may supervene. Anorexia is complete, a thicker coat forms upon the tongue, still of a whitish cast surrounded with a fiery border; diarrhoea, if not an initiatory symptom, frequently sets in at this period, and if no spontaneous diarrhoea an extreme susceptibility to cathartic medicines. Soreness and tenderness on pressure in the right iliac region exist to some degree in nearly all cases which are well developed. Cough also occurred in a large majority of the cases noticed by Bartlett, and this is mentioned as common attendant by other writers. In many cases this is very slight and scarcely claims the notice of the physician or patient, in other cases it is extremely annoying and calls for relief. Dr Watson mentions a symptom, first pointed out by Chomel, called the gurgling movement which sometimes shows itself at this period, but more frequently at an advanced stage. These somewhat active symptoms continue

for a shorter or longer period according to the strength of constitution and virulency of the prevailing epidemic, until the healthy excitability of the system begins to wane. Now the phenomena of the fever commence changing. The vascular system previously making some little show of strength, at this stage, in the worst cases, is extremely debilitated and in the milder ones is much weakened. The pulse is sometimes below the normal standard, while perhaps in a majority of cases the pulsations are very frequent, small and weak. The latter pulse indicating that state of the system, termed morbid excitation with debility. Headache, which manifested itself in the earlier stage, has disappeared by this time; the tongue now becomes of a brownish hue and dry, there is also some difficulty of protrusion. Nearly all patients are deaf to some extent, and many are very deaf, this symptom, however, bodes not ill so much as does extreme sensitiveness to sounds. There is now black sordes upon the teeth, gums and lips, the abdomen is distended and tympanitic

sounds are decided on percussion. The gurgling sound before alluded to, is more common at this period; it may be noticed by placing the hand over the cæcal region. It is supposed to be caused by the mixture of liquid and gass in the intestine. Passive delirium or stupor often appear at this period from which the patient is roused with considerable difficulty; the delirium is of that low, muttering kind, which tells that the cerebral current is slowly ebbing. An other symptom, which not unfrequently shows itself in enteric fever, is an eruption called the rose spots. This symptom generally makes its appearance during the second week of the fever, it may, however, be somewhat tardy in appearing or it may anticipate the usual time by several days. This variation depending upon vigor of constitution and concentration of the morbific agent; prostration and langour of circulation being always necessary to their production. These spots are about the ¼ of a inch in diameter, roundish, slightly elevated, disappear under pressure and return when

the force is removed. They vary in color from a dusp red to the softer hues of the rose. They are most commonly first seen upon the abdomen, afterwards spreading to the chest, occasionally to the face and arms. These spots are undoubtedly in many cases overlooked on account of their smallness, sparseness and paleness, hence observers should be very particular to view the patient under a good light with much care. Twitching of the tendons occurs in some instances, and even epileptiform spasms are mentioned by the Wood as appearing in rare cases. Patients, who are exceedingly ill not unfrequently pick at the bed clothing and in their dreamy sleep imagine themselves far from home. If death is to close the scene, the above symptoms rise to their climax; the surface is covered with a cold perspiration, the pulsations are pinched, hiccough occasionly, the pulse falters, becomes hurried and uncertain, or grows slower, beats - stops - beats again, - stops forever. On the contrary, should the means employed prove successful, the delirium, stupor or coma disappears; the tongue becomes

moisten, loses its fur, sometimes gradually, at other times in large flakes, the former mode being rather more favorable; the skin becomes cooler and less dry; the pulse grows stronger and fuller; some disposition to take food returns and in advance stages of convalescence the appetite becomes very eager, clamoring down the better judgement of the patient. The intellectual fires, which seemed to have been smothered for a time, shine forth again and dispel the dull expression which rested upon the countenance; the deafness gradually disappears; the restlessness gives way to repose, and refreshing sleep; the patient manifests more interest about himself and surrounding objects. Thus, the various organs, by degrees, resume their several functions, and the person after a tedious convalescence is restored to health.

and Complications. Louis made three varieties of this fever, the mild, the severe and the fatal. Of course these are mere grades of one affection, and melt into each other by such nice shades, that it would require no little discrimination to point out the line of separation.

"These refined divisions of a disease seem rather to perplex than to enlighten; the treatment in each variety being the same, only proportioned to the degree of severity.

Complications — Bartlett thinks that this fever is occasionally, but not often complicated with other diseases. "This may be true of certain districts or of certain countrys, yet it could not be asserted of other localities when this fever prevails. "The most ordinary complications are pneumonia, malarious fever, and bloody flux. "The last mentioned malady is rather a pathological sequence of the primary affection than a complication.

"The pneumonic complication is perhaps as frequent as any other. "This may begin with, supervene during some stage or even precede the symptoms of enteric fever. "The accession of pneumonia is indicated by the usual symptoms of that disease to wit: "Crepitant rales, followed by bronchial respiration, pain in the chest, accelerated and oppressed breathing, cough with a viscid and rusty colored expectoration."

This association is apt to occur during the seasons of winter and Spring, the times when pneumonia is most prevalent. The malarious complication is not an uncommon attendant in miasmatic regions. In fact, it seems extremely probable to my mind that this complication exists very often in the Southern States. For in the exact localities and during the very seasons, in which bilious remittents and intermittents used to prevail, now enteric holds supreme sway. It is certain, in many cases, where this obvious change has taken place, that the circumstances once potent in producing miasma still remain; and it is to be supposed that the generated miasma has as much power to produce bilious remittent, and intermittents now, as in times past. The exact rational mode of explaining this change in the endemic disease of certain districts, is to admit that the malarious poison still exerts its influence under the livery of enteric fever. This opinion is corroborated by the oscillating, remitting character which the fever sometimes presents in the inchoative stage, before the typhoidal poison-

has fully subdued the alternating tendency, so characteristic of miasmatic fevers: also by the bilious vomiting and yellow conjunctiva which are now and then seen in enteric fever. Bloody flux, as before stated, could hardly be considered as a complication, since it arises from an elevated condition of the intestines, which is one of the normal elements of enteric fever. This flux is, indeed, an objective symptom indicative of certain internal lesions. cal Lesions. These may be very grave or of little importance, varying with the malignancy of the attack and mode of treatment. In many cases there is scarcely an organ in the body which does not grapple hand to hand with this monster which preys upon the human frame with rage "more fell than tigers on the Libyan plain". From the frequency of delirium in this disease, from the intellectual dulness, from the deep coma, which often merges into death, it is reasonable to suppose that the soul's frail dwelling, the brain, is often the place of attack: and indeed, Dr Clutterbuck contended that inflammation of the brain was the essentiality of the fever.

But, notwithstanding disease of the brain holds a conspicuous position in the catalogue of pathological lesions, yet it would not be philosophical to subscribe to the opinion of Dr Clutterbuck, since, as Dr Watson states, many post mortem examinations have shown no morbid appearances at all, while many others show too little damage for the extinction of life. It is more than probable that the brain in this fever suffers not so severely from excess or deficiency of blood, as from the vitiation of that stream, which is freighted with the life-giving substance of each particular time. What this poison is, which corrupts the pure brain and blights, for a time, the energies of the mind, no one has yet been able to discover. Passing from the brain, the next organs met with, are the lungs. It is scarcely worth while to linger here, in order to describe minutely and ikronely the varying shades of color and changes in structure which occur in the different portions of the bronchial tubes, in the air cells and in the parenchyma of the lungs during the several stages of this fever. Suffice it to say, in cases not a few there exist all the symptoms

of bronchitis more or less developed. Associated with or independent of the bronchitis, congestion, hepatization or suppuration may appear, indicating the three stages of pneumonia. Along with these lesions of the lungs, the Spleen in almost every case is changed, being enlarged and softened; the liver also not unfrequently swells with a similar pale. Why the various organs of the body should become the seats of inflammation more in this fever than in others, it is difficult to say. It may be that the vital principle, which equalizes and harmonizes the different powers of each tissue, becomes exhausted by the long continued irritation of constant febrile action, and thus shorn of its protective agency leaves the viscera open to the inroads of the inflammatory process.

There is still another set of glands which fall a prey to the ravages of enteric fever, ie, Peyer's patches or Peyerian glandulae; and this lesion forms the grand distinction between this disease and proper typhus fever. The morbid appearances of these glandulae vary very much in different cases and in different stages of the same case. There may exist simple

irritation with redness, there may be determined inflammation with thickening of the tissues, there may be ulceration of the mucous and submucous tissues, and lastly perforation of the serous coat with extravasation of the intestinal contents. Louis, who first clearly fixed the precise relation of these pustules to this form of fever, made two divisions hard and soft pustules. This may be a correct distinction, yet it seems probable that the hard and the soft pustules are not distinct varities, but mere stages of the same pustule, which occur in the process of development. Dr Wood states that the hard patches may undergo resolution or ulceration, the soft always ulcerate. The same writer says that the matter of the hard pustule first softens before ulceration. I am following up the idea before presented, that there is but one kind of pustule, may it not be, that this softened condition of the hard variety has been mistaken for a distinct variety, termed the soft. This supposition is strengthened by the observed fact, that the soft variety always ulcerates, which is a natural consequence, if, (as suggested) it be only

the softened stage of the hard, for it is sufficiently evident that the process of softening is nothing more than commencing ulceration. That hard and soft pustules should be found together in the same person is easily enough explained on this hypothesis without considering them as distinct varieties — To day a patient may have six hard pustules, to morrow he may die, examination shows four hard pustules and two soft, the soft are taken as a distinct variety, when perhaps, in truth they are the softened condition of the hard. These ulcers, which appear in the ileum are not always fatal. Dissection has shown that they have a tendency to heal, some being found already cicatrized and others in process of granulation.

causes — As to the essential cause of this fever scientific men are yet baffled. Eager investigators "have tried what the open, what the cover yield," and still no satisfactory cause has been offered to the medical world. It has been sought amid squalid poverty; and the close hut reeking with animal effluvia, and crammed with miserable inmates has been pointed to, as its peculiar sphere of action.

But observation proves that the contracted bowel is not the only haunt where this fever loves to dwell. In truth, it walks through the halls of the rich with almost as much familiarity and frequency as in the cabin of the peasant. And it is a well established fact that in the polar regions, during the long, dark winter the Esquimaux crowd themselves together in small, filthy, illventilated huts, and yet no case of continued fever happens among them. In the year 1757, when Sooraja-dowlah, Nabob of Bengal captured Calcutta, and consigned many of the English captives to the Black Hole, none of them perished from fever. From these simple citations, it is manifest, that animal exhalations, though often an auxiliary, can not be the essential element in the production of enteric fever. Some have supposed and even contended that this fever owes its origin to the decomposition of animal and vegetable matter; that dissecting students are not often the subjects of enteric fever, is a sufficient refutation of this idea. Mr Bratton thinks the disorder originates in an animal poison, and to be com-

municable by contagion. The learned Doctor seems to have no doubt about its contagiousness, and presents quite a labored argument in defence of his opinion. Nor is he alone in this view, for other able men in Europe, and eminent ones in our own country have strenuously supported the contagious theory.
Weighing the strength of argument on either side of this question and calling to mind the few cases which have come under my own observation, it seems more than probable that this fever is not contagious.

It unquestionably prevails sometimes as an epidemic in certain localities, and this may cause some to think it is contagious, mistaking epidemicity for contagion. Nurses are occasionally attacked, dependent not so much upon contagious influence as upon fatigue and bad air incident to a sick room, which are admitted to be exciting causes of the fever. The fact, that a very large majority of those who visit fever patients is not attacked, is strong proof of its non-contagiousness. Although Dr Watson in his last edition describes enteric and typhus fevers as two

distinct diseases, his language impresses one with the idea that he does not realize the distinction which is delineated in his book; and it is not an impossible thing, that his strong belief in the contagiousness of enteric fever, is attributable to his mistaking typhus fever for typhoid in some of the strong cases adduced in substantiation of his opinion. If it be allowable to impute such an error in diagnosis to so great a physician, as Dr Watson, then the force of his reasoning can be met, since typhus fever is admitted to be contagious, but not typhoid. "The causes above mentioned, are animal exhalations - decomposition of animal and vegetable substances - epidemic influence - vitiation of the atmosphere from any cause. To these may be added exposure to damp night air, excessive fatigue - deficient and unwholesome food - vicissitudes of weather and mental depression. These causes may act sometimes as exciting, and at other times as predisposing agents. Dr Wood thinks the most rational view of the etiology of enteric fever is, that an innate predisposition to the disease lurks in

the system of many persons, analogous, in some degree to the tuberculous or gouty diathesis, and all other agents act only as exciting causes. This explanation relieves us from the confession of our ignorance just as well as if we had said it escaped from the ill-fated box of Pandora.

It has been noticed, that age has some influence in the production of this fever. Either extreme of life lends not so favorable to its development, as the period from puberty to thirty. It seldom attacks persons beyond fifty and is not very frequent among children under ten years of age. Why one period of life should be more exempt than another, it is hard to explain. It may be, that older persons have passed through it in earlier years, and are free from it in the evening of life, since it is not apt to attack more than once. Children may be more free from it than adults on the ground, that they are not so much exposed to the causes. Or possibly, during the most vigorous part of life, (from puberty to thirty) under peculiar circumstances, the eliminating duty imposed upon the Peyerian glandulae, is so great as to stimulate them beyond healthy action, even to inflammation.

This local inflammation, by nervous sympathy, is radiated to all portions of the system, added to this, the blood is contaminated by an accumulation of those particles which the glands of Peyer are wont to throw off; thus (as Dr Cullen terms it) "Febris ex synocha et typho composita excitatur." Dr Rush states, that Autumn and winter are the common seasons for the prevalence of this fever; the latter part of Summer also has its share of these fever patients.

nosis— Perhaps there is no single symptom which is pathognomonic of enteric fever. As before said, it is only by an association of symptoms that a correct diagnosis can be established.— Bilious remittent and typhus fever are the diseases most usually confounded with this fever. In the incipient stage of enteric fever the symptoms are not always sufficiently marked to distinguish unhesitatingly between it and bilious fever; in such a case it would be the better part of discretion to keep our tongues within our lips and wait a while for further development before announcing the diagnosis.

However, as a general thing, the stealthful mode of attack, the dullness of mind, the duskiness of the countenance, tenderness in the right iliac region, the tendency to diarrhoea and epistaxis, the slow and compressible, or the rapid, small and feeble pulse, together with absence of the bilious hue and decided remissions, will lead to a correct diagnosis between these two fevers. The discrimination between enteric and typhus is in many cases no easy matter, yet it is of no vast importance as the treatment for both affections is quite similar. The most distinguishing features are the following— Typhus fever does not make its attack so gradually and does not continue so long as enteric; it is more prostrating, shows a tendency to constipation rather than to diarrhoea. In typhus the face assumes a duskier hue, the conjunctiva has a muddy aspect. The ulceration of Peyer's glands reveals to us unmistakably the nature of the disease, but this knowledge cannot be gained until after death when it is rather late to benefit the patient much by the information. Considerable reliance

has been placed upon the two eruptions, which appear in enteric and typhus fevers, to wit: rose spots and petechiae. These eruptions are worth something as associate evidence, yet they are far from being positive diagnostic symptoms. The assertion above made is easily proved by simple reference to the mode of production of these different eruptions. The rose spots, which accompany enteric fever, are congestions of the minute vessels, dependent upon languor of circulation; now these spots disappear under pressure, for the obvious reason, that the blood is still contained in tubules and must recede along these ducts from force applied. The spot reappears soon after the pressure is discontinued, because the vessel recovers its diameter by the elasticity of its walls, and the blood again flows into it. The petechiae, which attend typhus fever, are not congestions but effusions into the surrounding tissues, dependent upon want of tone in the small vessels and watery state of the blood, now these spots do not disappear under pressure, for the blood is poured out into the tissues, and hence

has no duct ~~through which~~ it escapes from pressure.
On these grounds it seems impossible that rose spots
and petechiae should ever be confounded, and would
thus form an infallible diagnosis whenever they
appear, were it not that they both occur sometimes
in the same patient, and furthermore an eruption
may be at one time a rose spot at another time a
petechiae.— Thus, to day a patient may be laboring
under enteric fever marked upon the abdomen
with the characteristic congestions or rose spots,
tomorrow the patient may be so prostrated, the walls
of the blood vessels so relaxed, and the blood so thinned
that the congestions of the previous day may be effusions
or petechiae. In this way, these eruptions lose some
of their diagnostic value. The idea intended to be
presented is, that the rose spots require a certain amount
of prostration for their production, and if this prostration
be augmented sufficiently, then those rose spots or congestions
become themselves petechiae. As a general thing, the
prostration of enteric fever is not sufficient to convert
the congestions into effusions, while on the other hand

in typhus fever the prostration is so great as in a large majority of cases to produce effusions instead of congestions. It is this common association of these two affections with their respective fevers, which renders them of some import when combined with other symptoms, but never positively diagnostic.

Prognosis - This disease, like an enemy in ambush, should be feared and watched at all times. Some cases apparently the most mild terminate fatally, while others recover which seemed utterly hopeless. In such a disease the prognosis must be guarded. When there is dark, thick sordes on the teeth, frequent, small, feeble pulse, continued delirium, coldness of the extremities, a tendency to slip down in the bed, involuntary discharges from the bowels the chances of recovery are against the patient. On the contrary, when the patient is sensible of his condition, manifests some interest in surrounding objects, sleeps a reasonable portion of his time, begins to lose the tympanitic distension of the abdomen, tongue commences to clean, and the secretions to be restored, it is reasonable to suppose he

will recover. The rule should be, never to despair of the worst cases, nor be too hopeful and positive about the mildest

treatment. Ignorance of the true nature and real seat of this disease has lead to much gross error in treatment. In these latter days the most successful practicianers have chosen the wiser plan of doing very little, in preference to doing a great deal in the dark. They have agreed to assist nature in her healing proces, rather than take the case entirely in their own hands. This part of my subject might call for many pages, but time presses and explaination must yield to brevity. As success is the ultima thule of all treatment and experience the only true criterion of the success or failure of any particular mode of medication, the typo, in medical science, viewing the various plans can do little more than suggest the one which seems most plausible to him. The indications of treatment, which appear most rational, are the following— 1st To remove all sources of

irritation— 2 To moderate excitement— 3 To use stimulants and tonics when debility appears— 4 To thwart local inflammations"

The first indication may be fulfilled— By removing the patient to some retired room, sufficiently ventilated, free from all noises, cleaned of all impurities, and furnished with one or two faithful attendants— never more than are necessary to meet his wants. Should there be any irritating substances in the alimentary canal, these must be removed by a mild aperient= Magnesia or castor oil. Drastic cathartics should never be used in this fever, on account of the excessive irritability of the intestinal mucous membrane. Dr Todd advises, that when the bowels are locked up, to let them remain so, even for four or five days. This practice is not sustained by the best writers; and it appears reasonable, that the retained morbid secretions and alimentary substances would prove more irritating to the system than a mild aperient. To moderate excitement—

many remedies may be employed - When the pulse is full and strong, with much determination of blood to any vital organ, general bleeding is recommended; but scarcely one physician in a thousand will draw unsheath his lancet against this disease. In fact, the pulse demanding the lancet does not frequently occur in enteric fever, and when it does, most physicians are loth to bleed, because the lancet, from indiscriminate use, has become haunted by the bloody ghosts of many slain victims. To bleed, or not to bleed, is sometimes the question in enteric fever, and it must be weighed well: for in this malady, nothing is more important than to husband the patients strength. General bleeding, if at all employed, must be in the early stage. Refrigerant diaphoretics may be used from the commencement. The effervescing draught or mineral mixture may be given when the skin is hot and dry. In the first days of the fever, if the stomach be quiet, the bowels at ease and the pulse fully firm small doses of tartar emetic may be combined

with this diaphoretic. As nervous symptoms begin to develop themselves, Spirits of Nitric Ether can be added; and during all stages, should any disquietude occur in the stomach or bowels, an opiate may be combined with it. Sponging with cold water has been found very useful when the surface of the body is exceedingly hot and dry. This sponging may be extended to all parts of the body, if it be universally hot and dry. In cases of severe debility diluted Spirits may be substituted for water. The patient must not perish for want of water, but be allowed cold drinks in moderation, and a little ice if he wish it. When the energies of the System begin to flag, Stimulants and Tonics must be the weapons of warfare. The use of these agents must not be delayed, for life often hangs upon their employment. There is no specified time for their introduction; - whenever the pulse and general system indicate failing strength, they must be resorted to. Carbonate of Ammonia - Sulphuric Ether and wine

whey are among those most commonly used.— Dr Wood recommends very highly the use of turpentine in the latter stages of this fever, especially when the tongue is dry and fishured, and the abdomen much distended. As a tonic, the sulphate of Quinia is the best.— Along with these medical supportants, the nourishing and strengthening influence of beef tea and chicken soup may be tried.

The local inflammations, which spring up in this disease must be combated by topical blood letting— Calomel, and epispastics.— If the inflammatory process runs high in the brain, lungs, liver, spleen, or intestines, perhaps general bleeding might be advised, or at least the topical abstraction of blood by cups or leeches. The use of epispastics in these local inflammations, though valuable, must be guarded, lest sloughing of the tissues takes place. A mild mercurial impression induced by one or two grain doses of blue-mass repeated at short intervals, is sometimes very valuable. If there be no contra-indicating circum—

flannels, ipecac and opium may be combined with the blue mass: they tend to soften the skin and allay nervous irritation. It is well to have the hair cut short and the head kept cool by ice water applications, if there be much delirium. The copious diarrhoea and hemorrhage, which not unfrequently appear in this disease must be met by acetate of lead, kino, or extract of khatany with opium. The nervous excitation must be treated with camphor water or Hoffman's anodyne. Nice caught by sinapisms over the epigastric region, also by mush and assafoetida. When perforation of the intestine occurs, large doses of opium is the only hope. Bed sores must be prevented by anointing the exposed parts with tincture of iodine, washing with alcoholic preparations, and frequently changing the patient's posture. The bladder must be attended to, and not allowed to become distended with urine. The diet in entire fever must be light and chiefly liquid, during the early stage, so as to serve the purpose of drinks. Such as barley water

toast and water, weak solutions of tapioca - When debility approaches, more stimulating diet may be resorted to - to wit - animal broths and jellies: and in the more feeble cases, eggs beat up in wine, also the essence of beef and mutton. In the convalescent stage the return to the habitual diet must be gradual - never overloading the enfeebled stomach - Prophylaxis - ventilation - cleanliness - wholesome food - comfortable clothing - agreeable spirits: and disinfecting power of the Chloride of lime.

Francis Gillam

An

Inaugural Dissertation

on Menstruation

Submitted to the examination

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by

Benjamin F. Tyler

of

Virginia.

Menstruation.

One of the most striking peculiarities of woman, is that of menstruation. By this function is meant a sanguineous discharge, which is dependent on the maturation and evolution of an ovule.

The analogy between menstruation in the human female, and the ~~xxx~~ oestrual period in the lower orders of animals is very apparent. Whilst in the former, the mucous is intimately blended and united with the blood, which gives it the red color, the latter presents a whitish color, semitransparent and of a mucous consistence. The occurrence of the discharge in the lower order of animals, is not monthly as in the human female, yet it occurs at regular fixed periods, varying in different animals. In most animals, this period comes on

in the Spring, though it may occur at any period of the year, and in different animals from One to Six or even more times in the course of a year. At this period the Vulva, Vagina, and Uterus are found swollen, turnefied, and in a State of engorgement, similar to the analogous parts in the human female, whilst Menstruating. In the rabbit the parts correspond very much to the above descriptions. Upon first sight One might be led to believe, that inflammation had been lighted up in the parts. In the bitch there is a peculiar odor attending the oestrual period, by which the male is instinctively drawn to her.

In the human female, Menstruation commences at puberty, or at the age in which the female is capable of propagating her species. This period depends somewhat upon the customs

and habits of the individual, also upon the climate in which she may reside. Premature menstruation may be produced by luxury, wealth, and living a sedentary life, by early excitement of the animal passions. A warm climate excites this function to premature action. Females of the torrid zone menstruate much earlier than those of the frigid zone. A female residing in a city is subject to premature menstruation, doubtless in all probability, owing to the luxurious habits and inactive mode of life in which she has been brought up. Whilst on the contrary those living an opposite life, may have the menstrual flow much delayed. Whether these several circumstances have any special bearing upon the menstrual function or not, there is certainly a great difference as to the time of its occurrence in the

age of different females. As a general rule the first flow is observed between the thirteenth and fifteenth years. Occasionally females are found to menstruate much earlier than this, even as soon as the eighth or ninth years. But these cases are very rare. Again we meet with those in whom it may be postponed to the seventeenth or eighteenth years, or as late as the twentieth year. The discharge generally continues from two to seven days in succession. After the cessation of the flow the woman is in good health until harassed by a similar discharge. The amount of fluid discharged at each menstrual period, varies with the constitution of the ~~patient~~ female, generally from two to seven ounces, very frequently more than this. The menstrual function continues active about

ninth year, which added to the time at which she commenced menstruating, would make her about forty years old. The period of life at which the menstrual function generally ceases to act. After this period the female is no longer subject to the menstrual law, she is now approaching the confines of old age, she has lost the reproductive power, which she formerly possessed. The eye which once beamed forth with beauty and sparkled with intellect, is now receding in its socket. The hair which was once of a beautiful jet black or auburn, is now becoming white. Her cheeks once gilded with the "rose tint" of life, are now wan and pale. Her forehead which was once smooth, equable and prominent, is now deeply furrowed by time. Her tottering steps

indicate that she is just approaching the tomb. Therefore if the ovum is ovulated and menstruation after the first fifth year, and did conceive, it is in all probability, that she would not live to see her offspring arrive at the age of maturity. She would not be able to bestow upon her child that attention, which is so essential to its future happiness. And in consequence Nature has established in her system a new set of laws. A system of laws by which she is no longer able to reproduce her species.

The precursory signs of the first menstrual flow, are both local and constitutional. The system becomes plethoric, the genital way, the mons veneris becomes more rounded and prominent, on account of a greater deposit of

adipose tissue. This region now becomes covered with soft and pliable hair. The pelvis no longer retains the shape of the male pelvis, but its diameters are increased. The thighs are now almost perfectly round. The mammae gradually become more prominent, surrounded by a blush colored space. The nipple at this period is very sensitive. It is irritated by the least excitement. The harsh voice and stern look gradually disappear, to give place to those of a softer and milder form. She avoids the company of the gay and merry, and seeks quiet meditation. When in company she seems unbarassed, either afraid she will say or do something, not at all becoming one of her age and sex. The pleasures of mature age are substituted for those of childhood.

Upon the approach of each successive menstrual flow, the female experiences a feeling of general lassitude of body, uneasiness in the hypogastric region, with turgidity and swelling of the genital organs. The above symptoms generally continue from one to five days, followed by a discharge of mucous which in a short time becomes sanguineous, and finally it has the appearance of blood, until it begins to cease when the mucous secretions begin to predominate.

Whilst the above symptoms usually occur, there are women who have no precursory symptoms, the first evidence is that the menstrual flow has commenced, but she has experienced but little inconvenience or uneasiness, previous to this time. When the function of menstruation is once fully established it generally seems

every twenty-eighth day. This however is not an invariable rule. There are women in whom it occurs at longer intervals, then again it may take place as often as every fourteenth or twenty-first day. The menstrual discharge ceases during pregnancy and the period of nursing. The nerve force at this time is preoccupied. In fact nearly that force which is essential to call into play the physiological act of menstruation, is expended in supporting and maintaining the existence of the foetus. Lactation acts as a preventive, it calls from the system that amount of blood which is necessary in menstruation.

Ovulation is the cause and not the effect of menstruation. In examining women who have died whilst menstruating, an ovule will be found either developed or undergoing

those changes necessary to the developement of a perfect ovule. Upon examination of the common domestic animal at an analogous oestrual period, we find an ovule matured and ready to enter the uterus for conception. If we extirpate the ovaries of our common domestic animals, they will loose all sexual desire, they will be no longer subject to the oestrual period. They will never conceive again. The same experiment is true with the human female. Cases are mentioned in which the ovaries have been extirpated, and the woman recovered, but the menstrual discharge which previous to this time was regular, now entirely disappeared. The mammae now become atrophied and shriveled. Menstruation does not necessarily imply an outward show. A woman may ovulate, and the sympathetic or local

engorgement be not sufficient to produce that outward show which is commonly observed, On the contrary a woman may menstruate, without a perfect maturation of an ovule. Therefore a woman may conceive who has never given any outward signs of menstruation, or she may menstruate and never conceive.

The precise time at which the ovary ruptures, in respect to the menstrual flow is not definitely known. It remains for some future mind to enlighten us on this point. It is known that when an ovary is cut into after the commencement of the menstrual flow, that a hole will be found, though the ovule has made its exit. It generally consists of a yellowish or bloody spot, which can be easily examined by means of a sharp pointed probe or with some similar instrument.

The cell from which an ovule is developed is called the corpus luteum. At first it is filled with blood, subsequently it is absorbed and leaves the appearance of a common cicatrix. It is known in connections similar to that of the brain, caused by filling up of the space between the internal and external coverings, with a slight constriction of the latter.

It was formerly supposed that impregnation was essential to ovulation. This idea has long since been abandoned, and left almost without a single advocate. It is impossible for an ovule to become pregnant unless it comes in contact with the spermatozoa of the male. This is just as essential as the ovary of the female, as the testicle of the male. The ovule must escape from the mirasse of the ovary, in order that contact may take place.

the greatest aptitude to conception is within a few days preceding each menstrual flow. Many writers limit it to the eighth day after the last show, but it certainly extends beyond that period. It may take place at any time that a living ovule comes in contact with the fertilizing influence of the male spermatozoa. The Jewish ladies consider it a violation of religious duty, to permit coition sooner than the eighth day after the cessation of the menstrual flow, yet it is said, that no class of people are more prolific. It was formerly supposed that the periodicity of the menstrual flow was due to some unknown influence of the moon, in regulating the period and time of the flow, but this idea has been rejected from the fact, that we see women daily, who are menstruating, who are beginning

to menstruate, and those who are well, showing that it occurs at any period of the lunar month.

Another doctrine is that of general plethora. But this seems to me to be absurd, when we consider that the most adynamic female may menstruate regularly, even those who are emaciated and exhausted by disease. A female may be bled to incipient syncope, just before the anticipated menstrual flow, and it will not necessarily postpone the discharge. It is true that when her system is below the normal standard of health, that she is more liable to abnormal menstruation.

The most plausible theory, and the one I adopt is that of local hyperaemia, which consists in a supernatural amount of blood in the generative organs. It is the reproductive force that

determines the flow. Great as the Creator has endowed all vegetable matter with a reproductive force, so has He endowed the human female with this same law of reproducing her species. On account of the gestation and development of an ovule there is a great amount of blood sent to the parts. The sexual organs are known as a state of excitement consequently more blood is attracted to those parts. The excitement exist not alone in the ovaries, but it is extended throughout the generative organs. The blood vessels of the uterus are congested, swollen, tense, and turgid. This action continues until the walls of the blood-vessels, are no longer able to withstand the great amount of pressure exerted from within, and then finally rupture followed by

a gush of blood, though not perceptible to the woman. It was formerly a question of much interest whether the menstrual discharge was a hemorrhage or a secretion, but it is now generally conceded to be a hemorrhage. Among the most enthusiastic opponents to this theory we find Dr Lewes. He remarks that we must regard the appearances of the discharged fluid itself. This discharge must be either a portion of the common mass of blood, as it circulates through the system, or it must have undergone some change during its separation from the common mass; if the former, it should exhibit the appearances of blood extracted from any other part of the body, by opening a vessel for the purpose: (but this he says is not so) if the latter it is probable that it is eliminated

by the process of secretion. He says the argument in favor of secretion is further supported by the fact, that the color of the fluid is between that of venous and arterial blood, being more florid than the former and less brilliant than the latter. He also says that it never coagulates into parts, that it never coagulates, and that its odor is remarkably distinct from that of the circulating mass. As to the appearance of the blood it varies according to the length of time it is examined after it is drawn, If it could be collected free from the impurities of the vessels, it would present the appearance of blood drawn from any other part of the body. It would present the same chemical composition, as blood drawn from any other part. When blood is drawn from any other part it will

change its color by time. When collected with a speculum it will separate and coagulate. As to the odor that is derived principally from the secretions of the vagina and the external parts. It has been ascertained by microscopic examination, that the diameters of the pores of minute capillaries are smaller than the blood corpuscles. Therefore it would be impossible to give exit to a solid through an opening smaller than the solid itself.

In comp[illegible] the time at which labor may be expected, it is generally reckoned twohundred and eighty days plus one, from the last menstrual flow. We know not at what period an ovule becomes inert after menstruation. There are some females who never menstruate, yet they present upon an external examination every appearance of health.

They have no ovaries; therefore they are deprived of that stimulus which is necessary to bring about a state of things essential to menstruation. It is subject to repeated disorders. Drugs however must not be administered in such cases indiscriminately. The woman may be pregnant, and abortion may be produced by the unhappy use of emmenagogues. Time will develope the nature of the case. It does not require speedy action. The responsibility should be well considered, before the fatal blow is struck. The life or death of a living being may be in the hands of the practitioner. It is only necessary to recomend in such cases, open air, exercise and strong diet.

An

Inaugural Dissertation.

On

Cholera Infantum

Respectfully dedicated

to the

Provost, Regents, and Faculty

of Physic

of the University of

Maryland

for the degree of

Doctor of Medicine

by

Lewis Edward Gott,

of D. C.

Gentlemen:

Without defined ideas of the general arrangement, structure and functions of a part or organ; sound methods of treatment can neither be planned, nor successfully followed: with this bold assertion, we attempt the description of Cholera infantum; but not without some doubt as to our ability to give a correct view of the Pathology and treatment.

Cholera infantum is a disease confined to infants and very young children: Its common name is "Summer Complaint", and is one of the most frequent, and serious

diseases incident to childhood. It is characterized by vomiting, and purging, with fever, generally of an intermittent type; accompanied with rapid emaciation and generally towards the close of the disease with various cerebral symptoms. The disease prevails to a great degree in our densely populated cities, especially in Baltimore, Philadelphia, and New York, for it is in these cities we find low, thickly inhabited localities, with imperfectly cleansed, and unventilated. houses. It generally attacks children during the autumnal, and Summer months, but sometimes as early

as April and May. The period of attack is usually between the ages of four, and twenty months and during the first dentition. Should the child escape an attack at these periods, or pass safely through one, the chances for ensuing infancy are very good. This disease according to Dr Dewees, is one of the most fatal the infant has to encounte-, he also conceives it indigenous to the United States, It is denied we believe in exist on the continent of Europe, both by French and English authors we confess we doubt its existence. if we are allowed

to judge, from the descriptions that have been published of the Bowel complaints of children, which ordinarily occur in different parts of Europe, for they do not answer to the features of the infantile complaint of this country.

The causes of this disease, are doubtless the state of the atmosphere, combined with the character of the food upon which the child has been nourished. The foetid and gaseous vapours which originate in, and emanate from the sewers, and sinks, in conjunction with heat, are different causes. Dentition is another, and most potent

cause, especially if the patient should be so unfortunate as to be exposed at this period to a combination of heat of weather, and the impure acid of the city, the chances of escape under such circumstances from an attack of the disease are very improbable. The character of food often acts as an exciting cause of the disease, such a diet for instance, as crude, indigestable Stimulating or otherwise unwholesome articles.

The following are what we conceive to be chiefly essential to the production of the disease, an exposure to abrupt, and improper

atmospheric changes and inattention to the requisite amount of clothing, together with a want of cleanliness, whether of person, garments, or chamber.

Symptoms.

The disease is very irregular in its mode of manifestation. It generally manifests itself with a Diarrhœa, more or less profuse. Vomiting, and great irritability of Stomach may occur simultaneously with the Diarrhœa, but this is by no means the usual way in which it manifests itself at its approach; as it commonly commences with Diarrhœa, which goes on for some time, perhaps

without nausea or fever, after a short time however. Symptoms of extreme irritability of Stomach come on. Almost everything taken into that organ being immediately ejected and sometimes with great violence Towards the last stage of the disease the child generally lies on its back with its feet drawn up, tossing its arms, and rolling its head from side to side. The pulse is frequent and weak, the lips, and lining membrane of the mouth are fiery red, polished, and dry. In protracted cases aphthous patches appear, they are usually superficial, but may be deeper. the character of the

Stools stands conspicuous among the Symptoms: they generally present a green, or yellow color but more commonly light, and very thin, they are also sometimes tinged with blood; frequently they consist of slime, at an advanced stage they are compared by some authors to the washings of putrifying flesh. The source of the green color, has not yet been quite satisfactorily determined. In most cases it probably depends on the action of acids of the alimentary canal upon the coloring matter of the bile: but the late Dr Golding Bird seems to have rendered it not very improbable that in many instances

it results from the presence of alter-
-ed blood in the evacuations. The
light color depends upon an absence
or deficiency of the secretion of bile.
As the child returns to health, the
evacuations become less watery
and then resume their yellow color;
Stools of a natural character, alternately with
others of a green color, and unhealthy
aspect, or in which a large quantity
of mucus is present. The action
of the bowels too become less frequent,
and the child often regains its
usual health in four or five
weeks.

Prognosis.

This will depend

upon the State of the discharges and the effect of the remedies employed. If the discharges should become less frequent, of a darker color, and more bilious, and if the irritability of the Stomach, the cerebral disturbance, and the fever subside we may expect a favorable issue. If upon the other hand, the remedies have not the desired effect, and there is an increase of wakefulness, of the spasms, or convulsive movements and of the cerebral symptoms, rapid emaciation, frequent, small, thready pulse, cold damp surface, with watery, pink colored Stools, and the patient still submitted to the

noxious influence of the sealed and confined atmosphere of the city, the prognosis in that case would be unfavorable. If on the other hand, the child should be submitted at an early period of the disease to proper treatment, and removed from the causes that may have produced it: the prognosis would then be favorable.

Diagnosis.

This is not at all difficult the disease may easily be recognised by the season at which it occurs, the age of the patient, the vomiting and purging, the character of the evacuations, and the course of the

disease —

Anatomical Characts.

In fatal cases, the mucous membrane of the Stomach and bowels, is commonly found more or less inflamed, thickened and softened — Its Submucous Surfaces infiltrated but rarely ulcerated or excoriated — Dr William E Horner found the mucous follicles in great numbers, enlarged and even ulcerated, both in the small and large intestines: and in one case he observed small ulcerations of the surface of the membrane of the Tympanum — The liver is sometimes darker than natural, and congested generally: the gall-bladder is

occasionally filled with bile, and the spleen is nearly always in a congested state. The mesenteric glands are often enlarged, and indurated. In protracted cases, an effusion of serum is found within the cranium, but generally the brain presents little, or no morbid appearance, beyond slight congestion.

Judging from the changes found after death, we should judge cholera infantum, to be a disease of the stomach, and intestines, commencing as an irritation of the mucous membrane, particularly of the follicles of that membrane, and if not arrested, running on

into inflammation, and all its results; such as induration softening, ulceration &c —

Treatment.

This may be divided into the "Hygienic" and "Therapeutic": the former being as important, if not more so than the latter. When a child living in a city is attacked with cholera infantum it should be, if possible, removed to the country, and if this cannot be done means should be taken to give it as much fresh air as possible; the best air is that of the sea side or of a high and hilly country. The diet must be strictly attended to, if the child is still at the breast

— it should

still be confined to it— When the child is weaned, and is fed on wholly artificial diet. The proper regulation of it, both as to quantity and quality, is, we may say, the most important part of the treatment. The diet should consist of milk or cream diluted with water, and farinaceous articles, such as Arrow-root, &c.: in the advanced stage of the disease, we may give chicken water, & beef tea, & when there is much debility, wine-whey—

Therapeutical Treatment.

When the symptoms are of a mild character, consisting of slight diarrhœa with little or no vomiting, fever being either

absent, or very slight, all the treatment necessary is some gentle aperient such as Aromt. Syrup. Rhubarb, or Castor. oil additioned with one or two drops of Laudanum, & the use of the warm bath, or Chalk mixture, with or without Laudanum or Paregoric. When however the disease is more grave, and characterized by vomiting, purging, and considerable fever, further treatment will become necessary: As dentition is one of the most common causes of the disease, the gums should always be examined, and if found very red, and much swollen, should be freely lanced,

Depletion of any kind is seldom necessary, or even safe: Sometimes when

there is much pain, and tenderness on pressure over the abdomen, a few leeches may be applied, and occasionally when the head symptoms are very violent, leeches may be applied to the temples, or behind the ears.

Warm baths given several times daily, are often of great service by relieving the restlessness, and febrile disturbance.

Purgatives are generally not of much use, and often prove injurious by increasing the already existing irritation. A perient however should always be administered such as a teaspoonful of castor oil or syrup of Rhubarb, with one, or two

drops of Laudanum. After this should the Diarrhœa continue, Opium in the form of Dovers powder, & prepared chalk milk, if there should be any evidence of a deficiency of the secretion of bile, or if the stools are of a dark and offensive character, some preparation of Mercury either Calomel, Hyd. cum, Creta or Blue, mass, in small alterative doses: if the diarrhœa still persists we must have recourse to the vegetable and mineral astringents, such as Kino Catechu or their active principle Tannic acid, or Acetate of lead.

The vomiting if very troublesome, may be relieved by warm poultices applied over the

Stomach, and Lime water, and milk given internally.

It is often necessary to resort to Tonics and Stimulants, in the advanced Stages, and sometimes in Severe cases at the very outset of the disease; of the former, the best are Quinine, and Tinct. of Cinchona and of the latter, wine in the form of whey, Brandy and the aromatic Spirits of Ammonia.

Baltimore, February, 1861.

An

Inaugural Dissertation

On Scarlet Fever

Submitted to the examination

Of the

Provost Regents and Faculty

Of Physic,

Of the University Of

Maryland,

For the degree Of

Doctor of Medicine,

By

W. S. Blakiston.

Thesis

As each member of the graduating Class is required to furnish some subject connected with the science of medicine as a preliminary to a final examination, I beg to introduce for the consideration of the faculty the disease well known as Scarlet fever and hope that my efforts may meet with approbation.

Scarlet fever a disease that is common to our latitude is characterized by two distinct features: the affection of the skin and throat. It is a disease of early youth and childhood. persons of more mature years are not so liable to be affected:

This disease was for a time confounded with measles but is now understood to be a different affection; writers for convenience of arrange-

[illegible] may be [illegible] [illegible]
[illegible] been Compared to a [illegible] [illegible]
[illegible]
[illegible] there is also found [illegible]
[illegible]
[illegible] they are [illegible]
[illegible] anthrax. The Colour of the disease
is increased during excitement [illegible]
is generally smooth to the touch but it some-
times feels like goose flesh. The skin is gene-
rally [illegible] on the hands feet and neck. The
affection is also attended with a sense of
itching and burning which [illegible]
much trouble. The eruption [illegible]
about four days and then [illegible]
and is entirely absent by the seventh in the
[illegible] form of the disease the eruption is [illegible]

[illegible] its appearance and has a bluish [illegible] is also apt to recede and make [illegible] appearance in purplish spots. [illegible] fever does not abate when the rash [illegible] Consistent [illegible] [illegible] disease the pulse is more frequent than [illegible] disease of this Class. The skin is hot [illegible] burning, temperature [illegible] [illegible] fever augments towards evening and [illegible] attended with deli[illegible] The bowels are generally Constipated but [illegible] Cases diarrhoea occurs. The affection [illegible] throat is often inconsiderable, but [illegible] Cases it is one of the most serious symptoms of the disease giving the patient great suffering and much endangering life. The affection of the tongue is

[illegible] Becomes

[illegible] with white Cream like fur [illegible]

[illegible] are seen red papulae projecting, the

[illegible] appear red; on the decline of

the disease, the white Creamy fur Cleans

away [illegible] leaving the tongue raw-

[illegible], if the Case is unpromising the

tongue becomes hard and dry as it is ap-

[illegible] in Continued fevers. The skin

when the symptoms Mitigate becomes more

moist, the pulse slower and the throat

affection abates, Desquamation begins

on the decline of the disease and is all[illegible]

[illegible] it is usually Completed by

the end of the second week. If no Complic-

ations occur during this period the patient

may be said to be nearly well, but it is

[illegible] to guard him against relapses
[illegible] Cases of [illegible]
[illegible] found in the urine.
The course of the disease under consideration is various sometimes it is mild and the patient but little suffering in other cases it is attended with more malignant [illegible] death taking place before a reaction occurs. The occurence of gangrene in the throat is attended with much danger —
Scarlatina simplex the mildest variety of scarlet fever has no throat affection in general [illegible] is only the fever and the rash. the patient is not confined to his bed
some cases are more severe the fever is high and the rash is more diffused some

[illegible] cases are attended with delirium but [illegible]

Scarlatina Anginosa the affection of the fauces is more [illegible] diffuse: [illegible] suffering are some of the symptoms the rash is later in making its appearance than in the simple variety the eyes are red and within the fauces and [illegible] patches of false membrane are found on the tonsils at an early period of a dirty white colour they often cover the fauces and spread to the pharynx, accompanying the disease there is swelling of the parotid and submaxillary glands; it [illegible] that the parotid was the seat of the inflammation but it is now better understood to be in the

[illegible] tissues, [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] his mouth easily deglutition is accom-

plished [illegible] difficulty, when there is much

[illegible] of the external parts respiration is

embarrassed: The patient is often troubled

with [illegible] mucous secreted in the mouth and

[illegible] which he finds difficult to discharge

or swallow: The mucous membrane of the nose

partishes also of the inflammation [illegible] [illegible]

patient to breath through his mouth, producing

[illegible] of the tongue: [illegible] [illegible] [illegible] [illegible]

and offensive liquid is discharged from the

nose and [illegible] [illegible] [illegible] [illegible]

it comes in contact with; [illegible] [illegible]

diarrhoea which is one of the [illegible] [illegible]

of the disease.

[illegible] shall in the next place speak of Congestive [illegible] the most dangerous variety of the disease. The symptoms are more aggravated the system may be completely prostrated by the [illegible] of the attack the pulse is slow and frequent the surface cold in one part and hot in another respiration slow or hurried and irregular the face pale and livid, muscular exertion powerless feeble attempts may be made at reaction heat may be developed to disappear specks may be seen as they [illegible] through the skin but [illegible] [illegible] ceases and the patient dies on the 3rd [illegible] day. In other cases the symptoms may [illegible] reaction takes place a low fever [illegible] [illegible] delirium stupor and feeble circulation [illegible] petechial eruption appears passive

[illegible] involuntary discharges from the [illegible] and unless a favourable change [illegible] the patient dies in a few days; in other cases where there is more strength [illegible] attack is less violent the sufferer may recover but is left in a feeble condition.

The symptoms of malignancy are violent pain [illegible] and extremitys a predisposition to convulsions, pulse weak and frequent also a [illegible] [illegible] has a darker hue The throat is of a dusky red approaching to a mahogany, deep ulceration of the soft parts [illegible] [illegible] teeth covered with sordes.

Hemorrhage may take place [illegible] mucous membranes, added to these diarrhoea [illegible] of the throat, [illegible]

many evils as Scarlet fever

[illegible] glands are found [illegible] [illegible] are also found Congested

[illegible]

Cause is of a specific nature and probably contagious the disease is frequently confined to a [illegible] [illegible] is very mild, in other Cases it runs its Course with much violence. It attacks persons of all ages but children are most liable to be affected [illegible]

[illegible] this disease at first makes its appearance it may be easily mistaken for others you must be Careful in expressing an opinion unless it [illegible] [illegible] disease most likely to be Confounded with is Scarlatina or Measles. It may be distinguished from [illegible] diseases by great frequency of pulse [illegible]

... at affection and the characters ...

...

Prognosis is difficult and ... in ... of the epidemic, the state of the constitution of the patient, the late appearance of the rash is an unfavourable symptom, also its colour, ... is another important symptom, great prostration ... of commencement.

...

... simple form of scarlet fever requires very little treatment. Keep the patient in doors

... cooling drinks and put him on light diet and that is all that will be necessary. ... Angenosa of the stomach ... it is best to give a mild emetic at the begining of the disease. The bowels should be ... open ... If the skin is hot and dry Cold applied to the surface will be very grateful to the feelings of the patient. ... is high and the patient is strong and ... it would ... to ... the arm ... to ... If delirium should come on the hair may be shaved off and ice applied to the head and if the pulse is full and strong it is well to apply leeches to the nape of the neck. If ...

[illegible] emetics or give the patient [illegible] they may be treated upon [illegible] most malignant variety

In Scarlatina Maligna the most fatal form of this disease our best efforts [illegible]. The impression [illegible] poison makes on the nervous system is very great and our only hope is to sustain the patient until the effects of the poison [illegible]. [illegible] source of much danger is from the ulceration which is apt to [illegible] the fauces, if the patient is not killed by the first violence of the contagion. It is said that the system is [illegible] by the poisonous secretion

[illegible]

[illegible] disease the [illegible] are Sulphate of Quinine Carbonate of amonia Wine and Sulphuric ether, for the affection to the throat in slight cases I [illegible] employ demulcent and astringent gargles infusion of flaxseed and water acidulated with Muriatic acid, or vinegar.

When pseudo membranous patches are found in the fauces the best remedies are infusion of Capsicum or a strong solution of Sulphate of Zinc or Nitrate of silver applied with a Camels hair pencil. The offensive odour of the throat may be corrected by a solution of Creasote, chloride of soda or chloride of lime.

[illegible]

externally when there is much excitement

[illegible] applications to the throat may

[illegible] such as Capsicum oil

of Turpentine.

In treatment of Scarlet fever Chlorate

of potass in water a drachm to a pint has

been used with much [illegible] Combined [illegible]

[illegible] of antimony.

During Convalescence it is very important

to guard the patient from

exposure to Cold. Keep the bowels

open and if there is much debility

administer the mineral acids Quinine

or the simple bitters

The diet should be [illegible] but

nutritious the patient must be guarded

against
[illegible] [illegible] and [illegible]

The sequelae of the disease often need attention. When the parts about the neck suppurate poultices should be applied and the system be supported by tonics. If diarrhoea and inflammatory affections [they] must be treated on general principles reference being had to the debilitated state of the system. When dropsical symptoms do occur if they are slight they can be removed by purgatives and digitalis. diaphoretic remedies too are beneficial: one of the best of them is the warm bath repeated every night. If there is indication of inflammatory disease we have to admit more active measures. [illegible] [illegible] and [illegible] the [illegible] [illegible] [illegible]

[illegible] purgative and [illegible]
are the best agents for this purpose:

The Question relating to Belladonna
as a prophylactic has been discussed
with much ability recently. I think
it is now conceded that its power of
affording protection is perfectly [illegible].

An
Inaugural Dissertation
on
Malaria.
Submitted to the examination
of the
Provost, Regents, & Faculty of Physic,
of the
University of Maryland,
for the
Degree of
Doctor of Medicine.
By
Randall Holden.
of
Virginia.

Under the name of malaria or marsh miasmata is recognized that noxious agent, which, excites in the human system certain febrile diseases, and especially that known as intermittent fever or ague and fever.

It is not the purpose of this dissertation to consider the phenomena and treatment of this disease, only so far as is necessary in connection with the investigation of the nature and character of its exciting cause malaria.

It is hardly to be expected that a mere novice in medical science, should be able to investigate and explain that, to which the most distinguished savans have only been able to ascribe

a habitation and a name. It appears remarkable that an agent so deleterious to the human race, and the existence of which has been known for so long a time, should not have a better defined character, and that the mysteries surrounding its identity and modus operandi, should not have been expelled; while the disciples of Esculapius, have frequently raised the shout of eureka, and proclaimed to the world the many grand discoveries which adorn the annals of medicine.

Although the noxious effects of the emanation of fevers have been witnessed almost from the earliest records of medicine, yet the first work published from which any clear ideas of the effects of malaria

could be obtained, was by Lancisi, an Italian, in 1695. Since this time facts and almost innumerable theories have been advanced, concerning its chemical and pathological character.

Untenable doctrines have been promulgated, and again set aside to give place to others equally false, and mysteries have been veiled by mysteries, until human ingenuity seems almost to have been exhausted. Yet we know nothing more of its identity than did Lancisi; and but little more concerning its effects and movements. It seems to be a fact well established, that malaria begins for its generation, low lands, with a certain amount of heat

and moisture, together with the decay of vegetable matter. Malaria is met with different degrees of intensity, in different latitudes; it being much more virulent in tropical than in temperate climates, owing probably both to the more abundant generation, and greater concentration of the poison, and also to the greater depression of the animal system from the exposure to a tropical heat.

It is very well known that remittents are idiopathic in tropical countries, whereas in temperate regions, intermittents are almost invariably the form of the primary disease; both being excited by the same agent, but the latter and milder form, not unfrequently even in temperate climates if

deprived of proper treatment, passes into a chronic, which is much the more severe.

It is also a well established fact, that malignous diseases are exceedingly rare in the colder climates. From these circumstances, we can safely conclude that for the creation of malaria, a certain amount of heat not less than 60° is always required; and that the greater the degree of heat, the more concentrated and abundant is the poison, other things being equal.

Not only must there be a certain amount of heat; but also a certain amount of moisture preceding the heat. Yet the moisture unlike the heat can be in excess as well as deficient in quantity; for it is well known that exceedingly dust as well as wet days seasons

ve unfavorable to the production of malaria.

It appears that the seasons favorable to its production, are those in which there come heavy rains followed by rapid and long continued droughts. That a rapid drying of the surface is more productive of fever than a slow process, is proved from the fact, that its production depends on evaporation and not on absorption; and of course the more the evaporation, the greater will be the quantity of water absorbed. This also accounts for the fact, that porous sandy soils are comparatively free from malarious diseases, while dense clayey soils are extremely subject to them; the sandy soils absorbing the moisture with great rapidity, while the clay

veils, allow the greater part of evaporation.

The celebrated Dr Watson and others, consider it remarkable that the Dismal Swamp in the southern part of Virginia, should be free from malarious diseases; while other portions of this state as well as North Carolina, are full of it.

But this circumstance seems to be easily accounted for, by the very arguments which have led authors to suppose it a suitable place for the production of miasmata. This large tract is covered with trees and shrubs, which almost entirely cut out the rays of the sun, and thereby prevent that rapidity of evaporation necessary to the production of the miasm; besides being so bountifully supplied with water,

that the ground never becomes sufficiently dry so as to provide the proper exhalation of the poison. Most writers contend that the decay of vegetable matter, is also necessary to the production of malaria; but Dr. Watson takes exception to this theory and supports his views with such incontrovertible evidence, that we are led to suspect that it may in fact be correct. Yet it is well established, that although the decay of vegetable matter may not be absolutely necessary for the generation of the poison, still it plays a very important part in its production in most places. The strongest argument in favor of Dr Watsons position, seems to be the fact, that malarious diseases sometimes occur in the Spring, when the

is little or no decomposition of vegetable matter. But in answer to this, I think in every instance, the system became affected by the poison in the autumn previous, but the nervous system was not sufficiently depressed thereby, for the intermittent to become manifest; but that the system through the agency of cold, or by some other means becomes sufficiently deranged, or that the relaxing effects of the warm spring shall allow the poison to manifest itself in the usual manner at this season.

Many distinguished authors, and among them the celebrated Dr Armstrong, have advanced the opinion, that typhus and typhoid fevers are produced by the same species of malaria, as intermittent and remittent.

But from the known character of these diseases, it is thoroughly established, that though this species of malaria may be one of their main predisposing causes, they each have a specific exciting cause, a peculiar poison, which controls their phenomena and progress, causing them to differ materially from the common malarious diseases; one of the most prominent points of difference being manifest in their non contagious. It is generally admitted that malarious districts are more dangerous at night, than in the day time. Some suppose this to be owing to the more copious evolution of the poison; some to its being more concentrated, by the diminished temperature, and others

think it arises from the greater susceptibility of the system, during the period of nocturnal repose. I think the two latter circumstances combined will more satisfactorily account for this difference. It is well known that at the season when the poison is most abundantly generated, the days are exceedingly warm, and the nights comparatively cool; also that the atmosphere is frequently agitated during the day, but perfectly at rest during the night. Thus it is readily seen how the poison, though probably not so copiously produced during the night, may be more condensed, and also not blown from the immobility of the atmosphere, a large amount would be concentrated

at the same place, especially the place of its most rapid evolution. A more potent reason still, appears to be in the greater relaxation of the nervous system during sleep, allowing the poison to make a stronger impression upon it.

For it is easily demonstrated, that the primary effects of malaria are upon the nervous system. There is yet another reason why those remaining in malarious districts during the night, should imbibe more of the poison, than those staying in the same place through the day, viz difference of position. In most of the examples cited, those remaining through the day were occupied in an upright position, while those who lodged there through

the night, were in contact with the ground in a recumbent position.

It is therefore apparent, from the fact that the poison adheres to the ground that those reclining with their heads upon the ground, would imbibe a greater quantity of poison, than those standing in an erect position.

That the malaria is more concentrated and virulent near the ground, is so easily demonstrated, that it might almost be considered as an axiom. Every one knows that heat is the greatest, near the furnace in which it is generated; and that all agents, whether material or immaterial, are the most abundant and powerful, near the sources from which

[illegible] are produced. Whether we admit that the earth from any chemical quality it possesses, has anything to do with the production of malaria or not; it is evident, that it performs the mechanical office, of supporting the substances from which it is produced. The decaying vegetable matter and the water, are acted upon by heat and atmospheric air or some of its constituents, while in contact with the ground. The earth therefore is the source from whence the malaria is produced; and it follows as a natural consequence, that the poison must be more concentrated on its surface.

Dr Watson and other authors say, that it tends downwards; but this

is certainly not so, for if such were the case, there would be none of the poison above the ground, but it would either remain upon the surface of the earth, or be absorbed by it. Another reason why the malaria is less noxious the further it ascends from the surface of the earth, and why those occupying the upper stories of a house, are less affected than those upon the lower floor, is, that it comes in contact with a greater volume of pure atmosphere, and spreads over a much greater space, and of course it will be much less concentrated and virulent.

That the miasmata is movable by the wind, needs no other proof than

to admit, that it exists in the atmosphere, and that the atmosphere moves in currents in various directions.

Another circumstance which demands notice, and which seems rather more difficult to explain than most of those already considered, is the fact, that malaria becomes less noxious by passing over water; and instances are cited, where but a small body of water has prevented its noxious influence from being felt on the opposite shore. The only reason assigned for this, by most writers, is that the water absorbs the poison from the atmosphere, or such portion of it as to render it harmless. Admitting this to be true in part, it seems difficult to

reasonable to suppose, that the process of diffusion would afford quite as probable a solution of the problem. The surface of water presents no impediment to the free circulation, and rapid movements of the air over it. But it is also quite reasonable to suppose, that water would have a tendency to absorb from the atmosphere, the effluvia of decomposed vegetable matter, which remained in it until it was evaporated, and then with the watery vapor it was under the necessity of passing into another menstruum, the atmosphere; but when again brought in contact with water, that necessity no longer exists, and the poison passes back into its former medium. It is considered as

a remarkable circumstance by many, that malaria should not be generated in the filthy lanes and alleys of large and crowded cities, to the same extent that it is in the open country; but this can be easily accounted for, without taking into consideration the disinfecting agency of the numerous fires constantly burning. In cities there are wanting two of the substances necessary to its production; viz, earth and vegetable matter. The most of the ground in cities, is covered with buildings and pavements. The water which falls on the streets, does not remain on them and become stagnant, but immediately runs off before any considerable portion evaporates. There

is no considerable amount of vegetation growing in cities, and that brought in from the country is consumed for food, the refuse being generally removed before any manifest decomposition ensues, thus prohibiting the exhalation of any great amount of malaria.

It has long been observed, that marsh miasmata is very abundant in wild and unimproved sections, and that as those lands are cleared up and improved malarious diseases become less numerous and malignant, and in many instances entirely disappear. This is very satisfactorily accounted for, in part, by attributing it to the draining of the wet and marshy districts; but other very satisfactory reasons

may be given in addition to this. Malaria requires for its production the decomposition of vegetable matter, before it has passed through the process of digestion in the animal system. Now the vegetation of unimproved districts, is allowed to decompose at the place of its growth; while that of cultivated regions, is either cropped off by domestic animals as it grows, or is garnered up for their subsistence and as food for man; and therefore the greater portion of the products of the soil, is subjected to the various changes, with which it meets in animal digestion and assimilation, and is not subject to decay or putrefactive decomposition. Probably another circumstance which renders the poison

more malignant in inclosed sections, is the diminution of the free circulation of the atmosphere, by the dense trees and foliage, and the removal thereby of the poison, causing it to commingle with the unimpregnated atmosphere of the higher regions. It is considered by some a remarkable property of malaria, that it should be attracted towards, and adhere to the foliage of large trees.

Its attraction towards trees may be considered a matter of some doubt; but that it is more abundant in the immediate vicinity, it may be admitted.

The accumulation of vegetable matter by the falling of the leaves, and especially by the lodging of rotten vegetation against

their trunks, in those woodlands which are occasionally overflowed, affords a large supply of material for the production of the poison, and as before stated it will of course be most plentiful, at the place where it is generated in greatest abundance.

From the fact that a thick wood or belt of trees will interrupt the course of the wind, and thus prevent transporting the malaria beyond, it has been suggested, that dwellings situated in the neighborhood of marshes, or otherwise exposed to malaria conveyed by the wind, be surrounded by a hedge of trees and thus protected from its influence; but it would probably be rather expensive planting a sufficient number of trees, to afford any security.

Dr Wood says there is reason to believe, that miasmata contribute to the nourishment of vegetables, and assigns this as one of the reasons why malarious diseases prevail especially in autumn; the vegetation of this season not being sufficiently vigorous, to consume all the products of decomposition going on in the soil, as it does in the spring and early summer.

It might very properly be questioned, whether there is any miasmatic exhalation more from a very small amount, from the soil during the spring. It seems more plausible to suppose, and observation goes to prove, that malaria is only produced in the early part of the process of decomposition, and that after vegetation has been

subjected to a very low degree of temperature, and frozen - perhaps several times, no miasmata is exhaled, although the process of decay is still progressing toward entire destruction; and therefore we may conclude, that the absence of malaria in Spring, is not due to its consumption by plants, but rather to its not being produced. It may then be doubted that the malarious poison contributes at all, to the nourishment of plants; while most other products of decomposition contribute greatly thereto.

Of the precise nature of malaria nothing certain is known, although its effects and habits seem to be tolerably well understood. Some suppose that

it is something positive, that in the decomposition of vegetable matter a certain poisonous agent is evolved, with which the atmosphere becomes impregnated; while others are of the opinion, that it is negative, or depends on the absence of some important principle, which is removed from the atmosphere during the decay of vegetable matter, which is essential to health. Some ascribe it to animalcules, others to microscopic fungi. Sir James Murray held that the true agents were electro galvanic currents, while Dr. Mitchell maintains that they are exclusively of cryptogamic origin. Various Chemists have from time to time analyzed the atmosphere

of marshes, but nothing has been discovered, which can with the least degree of certainty be considered as the true miasmatic poison. Carbureted hydrogen is a well known product of marshes, but it is considered wholly incompetent to produce malarious fever.

M. Bousingalt detected organic matter in the air of marshes, and this is by some considered as an argument in support of the animalcule theory.

These animalcules are supposed to be generated during vegetable decay, from pre-existing germs, and by entering and being propagated in the human system produce miasmatic diseases; but the existence of these organic beings, has never

yet been discovered in the system, and the facts, observations, and arguments adduced in support of this theory, are not sufficient to overcome those advanced in opposition to it. Some of its advocates attribute the malarious influence, to irritation by the living animalcules, and others that it results from the deaths of those numberless minute tribes. One very powerful argument against the animalcule theory, is the variation in the onset of malarious diseases after exposure to the poison; for every one knows, that the propagation and development of animal matter, requires a definite period.

The Theory of Prof Mitchell is considered by many the most plausible, of any yet

advanced, and by some as amply sufficient to account for all the phenomena of the poison. It is true that many facts are adduced in its support, and many powerful arguments advanced by the learned Prof.

Set on the other hand there are certain laws of vegetation, set at defiance, and certain phenomena attending malaria, left entirely unaccounted for.

Vegetation like all other organic matter, requires a definite period for its development, and therefore the same objection applies in this, as in the animalcule theory. Another very important fact, militating against either of these theories, is that malarious diseases are not

contagious. It is very certain that animalcules are **Transferable** from one human body to another, and it would appear almost equally certain that the germs of some of these organic fungi, would frequently be Transported from one person to another.

But it is well established, that malaria can not be transported from one person to another, no matter how close they may come in contact; nor from place to place, by any variety of fomites. It is unnecessary to examine all the theories that have been advanced concerning this **poison**, as there are but few, that consider any one of them sufficiently supported, to render it a true solution of the difficult problem.

Some even go so far as to deny the

existence of any such agent as malaria; and ascribe all the phenomena attributed to its influence, to abnormal calorification, or an unnatural electrical condition of the system. But if this were true, periodic diseases would be more general, and not confined as they are known to be to certain localities; nor would they be controlled only by specific remedies.

The most probable theory seems to be, that malaria is a specific poison, and that specific poison, a gas which is eliminated during the rapid decomposition of vegetable matter, owing to there being an insufficient amount of ozone in the atmosphere, to neutralize and thereby render this gas disinfectious.

The gaseous nature of malaria, has been ably maintained by Dr. Gardner and others, but while they are probably correct in considering it a gas, they are in error in regard to the kind of gas. Dr Gardner maintains that sulphuretted hydrogen, though not the malarious body, is not the noxious body; that sulphur is a component of a certain unstable organic compound, and this substance upon entering the lungs, is decomposed into sulphuretted hydrogen, carbonic acid, and water. Against this position in this theory, we have the fact, that it is impossible to produce an attack of malarious fever at will, with this gas, and that at the various mineral springs where it is continually

evolved in great abundance, there is no
malaria. It is therefore evident that
sulphuretted hydrogen, is not the true malaria,
or if it is, that it must possess some property,
or be in some state differing essentially
from the gas usually called by that name.

Without endeavoring to show what
the real composition of the poison is
I shall proceed to demonstrate, that its
existence depends entirely upon the presence
of ozone. Ozone is defined to be
oxygen in a semiactive, or allotropic state,
and is the most universal, if not the most
powerful disinfectant in existence.
It probably exerts its disinfecting agency
by chemically uniting with certain noxious
substances, among which is included the

exciting cause of malarious diseases.

This ozone is rendered passive by long continued heat, and its deodorizing property thereby destroyed. It is therefore evident, that heat has a twofold agency in the production of malaria; it causes a rapid decomposition of vegetable matter, and at the same time, destroys the agent that neutralizes the poison evolved by such decomposition. It has been asserted by some, that electricity passed through oxygen in a passive state, will restore its bleaching and disinfecting property; but it is now denied by many that such is the case. It is probable, that the passage of a current of electricity through the atmosphere, causes a commingling of that of the higher regions with

that of the lower, and thereby restores this property; as the higher strata of air, are known to contain a much larger proportion of ozone, than the lower.

The question may arise, as to why malaria is confined to certain localities, and not more universally spread over the surface of the earth. The same answer applies to this, as to most other theories. It requires a certain amount of heat, moisture, and vegetable matter, in order that decomposition may go on sufficiently rapid, to destroy and consume the ozone, and thus it is evident, that tropical regions, must be more subject to malaria, than temperate, or cold regions; their excessive heat destroying a great amount of ozone.

Some object to the theory, that malaria is a specific poison, because it does not assume a definite period for its incubation, after it enters the system, as is the case with most other specific poisons. But malaria is not, like most others, a blood poison. Its primary effect is on the nervous system, especially the spinal and ganglionic centres, and therefore no definite period is occupied in fermentation, as occurs with the virus of small pox or measles, but the length of time required for its effects on the system, is regulated by the virulence of the gas, the length of time for which the person is exposed, and also to the difference of susceptibility and amount of nervous power in different individuals.

The latent period of the malarious poison, is said to vary from seven to twenty one days, but cases are not infrequent in which it lasted, from one to six months, or even one year after exposure.

As evidence of the action of malaria on the spinal system of nerves, we have the precursory symptoms, the pains in the head back and loins, and finally the chill, all showing disturbance of the excito motor nerves. The disturbance of the ganglionic system, is evinced by the abnormal manifestations of the secreting organs, and the fever which succeeds the chill. Another argument, in addition to those already adduced proving malaria to be a specific poison, is the fact that it

is controlled by a specific remedy, the cinchona bark; and it seems a remarkable coincidence, that this remedy should only be found growing, at a height of not less than four thousand feet above the level of the sea, where the atmosphere is supplied with a superabundance of ozone, and that it should prove so beneficial in those diseases caused either directly or indirectly, by the absence of that agent. If it were not for the very small amount of oxygen, that quinia contains, we might infer that its beneficial effect, resulted from its supplying that element to the system in an allotropic state, and thus counteracting those effects, caused by breathing an atmosphere deprived of ozone. But it probably acts on the nerves

centres as a tonic, stimulating them to overcome that impression, made upon them by the malarious poison. That Quinia acts upon the nervous centres primarily, is evident, from the disturbance of the functions of those organs, whose nerves originate at the base of the brain, such as hearing, sight, and the muscular movements of circulation, and respiration, due to reflex action. It would be much more satisfactory, if we were able to prove the precise nature of this animal poison, as well as to show, that its existence depends entirely upon the absence of ozone; but from our present want of knowledge in regard to its identity, sufficient facts and arguments cannot be produced, to accomplish this.

We can only determine, that whether it is simply atmospheric air, with its oxygen rendered passive so as no longer to be disinfectant, or a gas emitted from the rapid decomposition of vegetable matter, it is something negative, that it is due to the absence of ozone. It would favor the theory of Dr Watson, viz, that the decomposition of vegetable matter, is not required for the production of malaria, to consider the poison to be atmospheric air, deprived of its ozone by excessive and long continued heat. It would be supposed that this might be demonstrated, by causing animals to breathe an atmosphere, deprived of this agent, were it not for the fact, that animals of the lower order are not affected by malaria

as readily as man, nor in the same manner. Yet if this were proved, it would not be conclusive evidence, that vegetable decomposition did not play a very important part, in the production of malaria; it would only prove that it could be produced without such agency, by long continued excessive heat; for it is very certain, that in most malarious districts, the rapid decomposition of vegetable matter, assists very much towards depriving the atmosphere of its ozone. But it satisfies all the conditions of the question better, to allow that this deficiency of ozone, permits the escape of a noxious gas, which produces a specific effect on the system; and it is too volatile to be discovered by any of our senses, and too fugitive to be caught by

any of our contrivances. There seems to be some difference of opinion, in regard to the manner in which malaria, is received into the system. Some suppose it, to be mixed with food and the fluids of the mouth, and thus swallowed. Others, that it is inhaled by the lungs, which is in all probability, the channel through which it is mainly received. Dr Dickson, while he admits the entire plausibility of the latter view, regards the skin as the chief inlet of malaria, and to support this, asserts that the several tribes of men are affected differently, owing mainly to the difference in the color of their skins; but in this he is evidently very much mistaken. He cites the island of Fernando Po, as being the

most unhealthy place in the world. No
person, not even the blackest negro, can
live it with impunity, while its native
inhabitants are strong and healthy, thus
showing by his own argument, that it
is not the color of skin, that makes the
difference. He also states, that the African
continent generally, is deadly to the white
man, while the native Africans are almost
insusceptible to malarious poison; but it
has been proven, that negroes taken there from
America or other healthy regions, are no less
susceptible to malaria, than white men.
Yet it is not to be denied, that the dark
skin of the negro, allows him to endure the
excessive heat of tropical regions, much better
than the white man. Another argument

adduced by Dr Dickson, in favor of the absorption of malaria by the skin, is the fact that the state of sleep, is favorable to the impression of malaria, and that during sleep the lungs are less active, while the skin is relaxed and moist, and thus rendered more capable of absorption.

But from the fact, that the primary effect of malaria is on the nervous system, it is much more plausible, to attribute its more active impression during sleep, to the great relaxation of that system. If the skin were the main entrance of the poison, we might suppose that by the use of proper articles of clothing, it might be entirely prevented from entering the system; for Dr Dickson himself admits, that a tent

or mantle, or even a veil, will give sufficient protection. Without denying that a small portion of the poison may be received through the skin, it is impossible to conceive how any considerable amount, can be introduced into the system except by the lungs.

There has been a great deal of speculation in regard to the cause of the periodicity of malarious fevers. One ascribes it, to the periodic development of fermentable matter in the blood, but then we may ask, why does this happen periodically. Another attributes it to some general law of the universe, the same that causes alternations of light and darkness, or the ebbing and flowing of tides, the states of sleeping and waking &c. Mr Roche attributes it

The periodicity of the cause, the miasmata acting energetically during a part of the day, and at another part not at all. But as in many cases, the disease does not manifest itself for weeks, or months, after the removal of the cause, this theory falls to the ground.

The views of Cullen are generally recognized, as being more nearly correct, than any that have been advanced. He was of opinion, that it was due to some law of the animal economy, through which it was subjected to a diurnal revolution. Yet the different types of malarious fever seem to offer an obstacle to this view.

As the primary effect of malaria, is on the nerves, it is most reasonable to suppose, that the periodicity of malarious diseases, is

due, to the different condition of the nervous system, during the different parts of the day. What these changes are, or what conditions are necessary to produce the various stages of an intermittent, it is difficult to determine; but it is very evident, that the nervous system is in a different state of excitation, or of relaxation, and that it bears a different relation to other parts of the body, during the different hours of the day; thus, in the morning after a good night's sleep, the mind is clear, and there is apparently a great amount of vigor in the nervous centres, while as the day advances, the nervous force is exhausted, and the proper balance is not observed, between the nerves and the processes of secretion, and the various other functions of the different

organs. Another argument in favor of periodicity being due to nervous disturbance, is the fact, that various nervous diseases observe this law with more or less precision, as is often the case with neuralgia, epilepsy, and hysteria. But as little is known with exactness in regard to the different functions and conditions of the nervous system, that there can be but little said with certainty, in respect to the precise manner in which this periodicity is produced.

It is not an easy matter, to account for the different types manifested in malarious fever. That the nervous system is influenced very much by habit, we are well aware, and we are ready to admit, that habit has a great deal to do with the

periodicity of malarious diseases, but the habit, whatever it is, must first be formed.

These different types, seem to be regulated in the first place, in proportion to the amount of nervous disturbance. In the tertian for instance, forty eight hours are required, for the poison to produce sufficient abnormal effect on the nervous system, after the occurrence of one paroxysm, before another is produced, and thus a habit is established, which may continue for some time, or if the poisonous influence is still in operation, it may be aggravated into the quotidian form, or by the use of proper remedies, it may be entirely prevented.

As an illustration of the force of habit, we have the experiment of

Mr Brachet, who took a cold bath in seven nights in succession, and immediately covered himself in a warm bed, producing a considerable amount of heat, followed by perspiration. Upon the discontinuation of the bath, all the phenomena of the ague fit occurred, for six nights in succession, at the same hour, when being called out on the seventh night at that hour, a heated ride prevented the paroxysm, and thus the habit was destroyed. There are many instances in which malarious diseases have occurred at some considerable period, subsequent to some attack, without the person having been again exposed to the influence of the poison. This is probably due

due to the influence of habit, so strong an impression is made by the first attack, that other depressing influences, if acting with sufficient force on the nervous system, may cause a recurrence of all the phenomena of a paroxysm.

Physiology of the Eye.

To an approximately accurate discussion of this subject, a brief and superficial view of the minute anatomy is required. The whole subject, anatomy and physiology of the Eye, thoroughly examined would require more space than can be devoted to it in a thesis, the following examination is therefore both imperfect and general.

Anatomy. The Orbits are irregular four sided hollow cones, bounded above by the orbital plate of the frontal bone and a portion of the lesser wing of the sphenoid, below by a portion of the malar and orbital processes of the superior maxillary and palate; externally by the orbital process of the malar and great ala of the sphenoid; internally by the lachrymal bone - portion of the ethmoid and body of the sphenoid. Opening into them are various foramina and fissures.

Above the orbits, on the superciliary ridges, are the eyebrows, Uses - 1st mechanical protection against the ingress of sweat &c, 2nd to deepen the arch and protect from the undue influence of light &c.

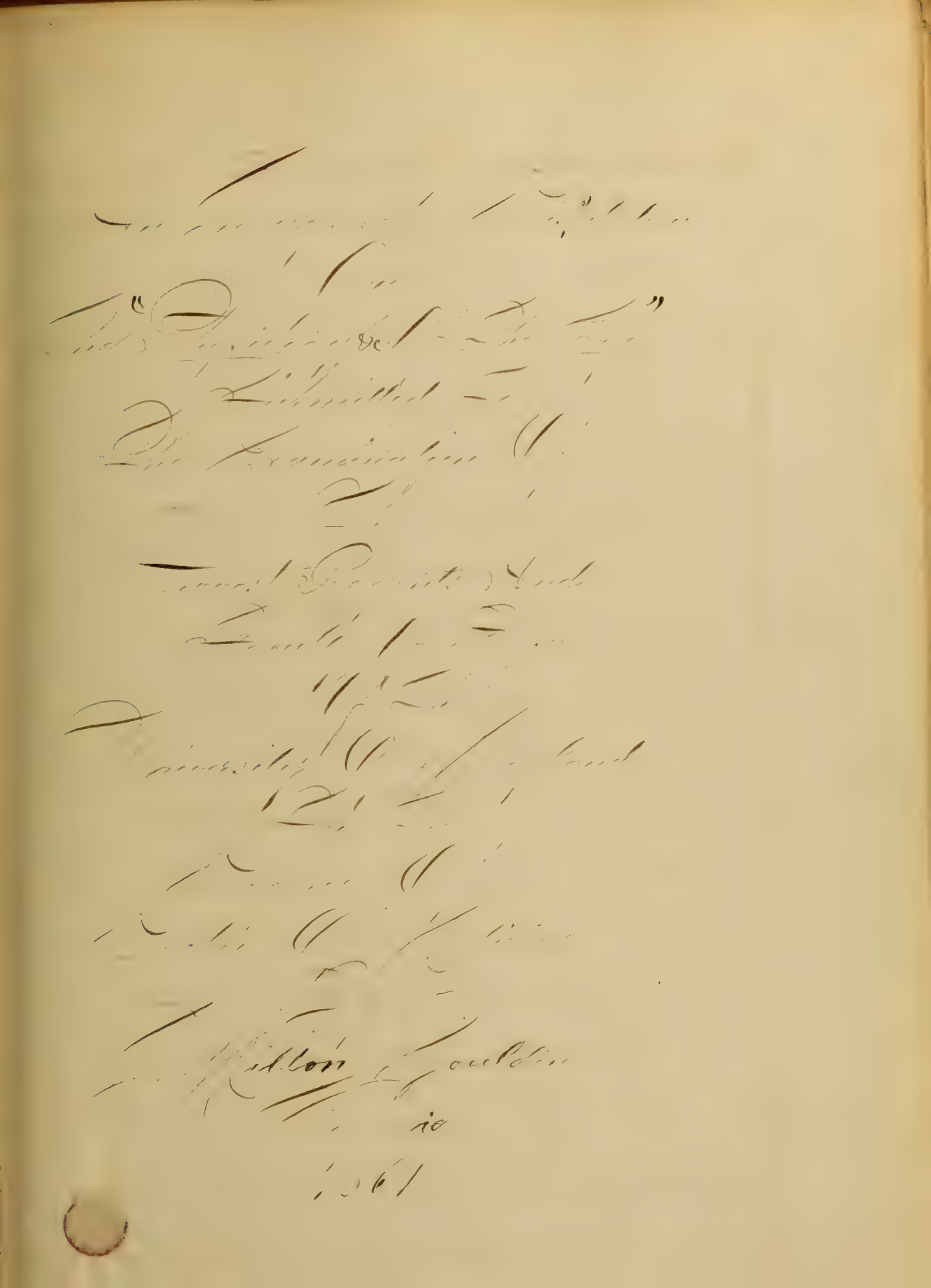
Eyelids: pair of valves one above and one below, composed of integument tarsal cartilage, and conjunctival membrane, fibrous membrane, latter by its periostial attachments holds the lids in proper position.

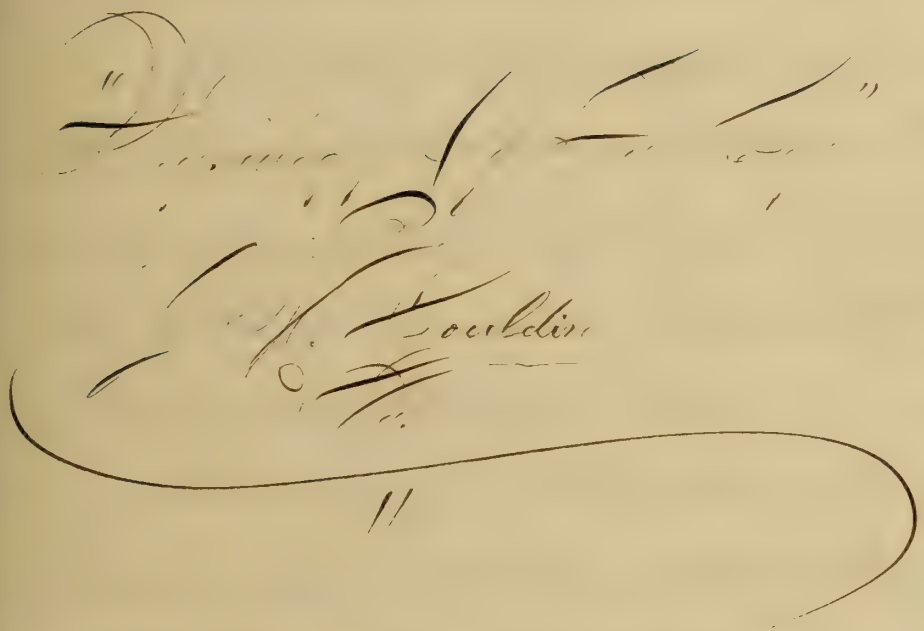
Tarsal cartilages - upper one crescentic, lower one more eliptical; each having a row of eyelashes growing from the free margin, Use - 1st mechanical protection to the eye - 2nd by their motions to convey the secretion of the Lachrymal sac over the eyeball. Eye lashes also protect the eye.

Meibomian Glands - convoluted tubes, yellow color, beneath the tarsal conjunctiva, opening by orifices in the free margins of

The tarsal cartilages and internal to the eyelashes.
Uses-by their oily secretion 1st to prevent adhesion of the eyelids- 2nd by the capillary relation of the secretion to the tears to prevent their overflowing on the cheeks. Conjunctiva- Mucous membrane of the eye, covering the ball and reflected on the lids, forming their internal layer- having of course a superior and inferior fold, or oculo palpebral sinus.
Uses-1st protection, 2nd to admit of ready and easy motion of the eye ball and lids, it being always lubricated by tears &c. Lachrymal Gland. At the outer superior portion of the eye, lying in apposition ~~partially~~ partially with the orbit and partially with the lid, and against the orbital plate of the frontal bone, in the L fossa, Flattened or oval, about an inch in length, having several ducts conveying away the secretion and opening on the

conjunctiva above the margin of the tarsal cartilage;
Use, to ~~lubricate~~ secrete a fluid to lubricate the conjunctiva &c,
Lachrymal Canals,— are duets leading from the open-
ings called puncta Lachrymalia at the inner angle
of the tarsal cartilage, and are dense and elastic, al-
ways open, and convey the tears to Lachrymal sac;
Lachrymal Sac,— may be a dilitation of the upper
extremity of the nasal duct, lays on the Lachrymal
bone; composed of mucous membrane, covered by a
fibrous investment from the tendon of the orbicu-
laris, covered also by the tensor tarsi muscle—
Use— to receive the tears previously to their entrance
into the nasal duct: Tears enter by capillary attrac-
tion, and suction from pressure on the sac by the
tensor tarsi. Nasal Duct - continuation down
into the nose of the L. Sac, is lined by mucous
membrane, continuous with that of the eye and





that of the nose, Use – to remove the tears which flow down and moisten the mucous membrane of the nose and are removed by evaporation during expiration,

The Eye Ball or Globe of the Eye.

Eye Ball, a sphere – inch in diameter but, longer anteroposteriorly than laterally on account of the peculiar shape in front, i.e the projecting Cornea. Axes of the eyes are parallel but those of the orbits are not, crossing each other over the Sella Tursicae of the Sphenoid bone.

Tunics or Coverings of the Globe are three in number – 1st Sclerotic and Cornea, 2nd Choroid, Iris and Ciliary Processes, 3rd Retina and Zonula Ciliaris.

Humours three also, 1st Aqueous, 2nd Crystalline, 3rd Vitreous.

First. – The Sclerotic and Cornea form the outer investment, former covers 4/5 – the latter the remaining 1/5.

Sclerotic – dense, strong, white fibrous membrane,

continuous with the sheath of the nerve, the sclera behind and pierced by the nerve and various arteries &c, in front is wanting, in ⅓ where the Cornea comes in, covered, partly by the mucous membrane Conjunctiva,

Use- 1st mechanical protection, 2nd gives the means of insertion of the four recti and two oblique muscles, which determines the various movements of the Eye.

Cornea, Transparent projecting- constitutes anterior ⅙ of the eye- circular- concavoconvex- fixed into the beveled edge of the Sclerotic like a watch glass- edge inserted is sharp and thin, Not a simple membrane but complex, composed of four or five layers- them of several lamellae &c. Covered in front by the Conjunctiva and behind by another membrane to be mentioned hereafter, Use- is the window of the eye- lets in light to the optical apparatus and nervous machinery.

Second Tunic- Choroid, Ciliary ligament and Iris

Choroid, vascular- having an external arrangement of veins- internal one of arteries, lies between the Retina and Sclerotic, has also internally a layer of black pigment cells or granules, color brown as seen before, black behind,- terminates behind at the optic nerve which pierces it and in front at the junction of the Cornea and Sclerotic, at a dense white ligament, surrounding the Iris and connecting the two tunics, i.e 1st & 2nd called Ciliary Ligaments &c, Use- to carry blood and oxygen to and away from the eye &c, another use from the black pigment to be discussed further on,

Ciliary Ligament- White body connecting the Cornea and Sclerotic at their line of union with the Iris & Choroid, has a canal in its border called canal of ~~Canal of~~ Fontana, Vascular

canal.- Use discussed further on, Iris circular dia-
phragm, color varies, attached to the ciliary ligament
by its periphery, pierced near its middle, and forms the
pupil by its free margin, looks towards the cornea
in front and lens behind.- dividing the space between
lens & cornea into two parts, anterior and posterior
chambers.- Muscular, having radiating and circular
fibres, one to dilate and the other to contract the pupil
- is of a purple color posteriorly, Use, to regulate
the admission of light into the eye &c.
Ciliary Processes.- About sixty or seventy triangular
folds, made by the middle and inner layer, i.e. arte-
rial and pigmentary, of the choroid, circumfer-
ence attached to the ciliary ligament - ends
turned in and rest upon the lens; little
triangular interspace between these folds
Third Tunic - Retina & Zonula Ciliaris, which

Cuttle is a mere continuation of the Retina to the Lens be

Retina. Nervous coat of the eye, expansion of the optic nerve, the nerve tubules having cast off their coverings. Composed of four layers,

1st " a gran fibrous layer from the tubules of the optic nerve, after losing their white matter of Schwann, except the hyaloid membrane.

2nd " gran vesicular layer like the gray matter of the brain

3rd " a granular layer — congeries of granules and give origin probably to the vesicles.

4th " membrane of Jacob, a sheet of rods, shaped conically, bodies, butt ends out, small ends in. This membrane is transparent during life, but becomes opague after death. Has internally a vascular layer obtained from artery which pierces the optic nerve and enters the eye surrounded by the retina proper. The Retina terminates by one part

at the origin of the ciliary processes by a notched border - by the vascular layer however it is connected with the ciliary processes and lens by the folds of the Zonula ciliaris, these interlacing with the ciliary processes in the triangular interspaces of the latter.

Humours. Aqueous is in the anterior and posterior chambers of the eye, in a membrane lining these two chambers, they being in connection through the pupil. Anterior Chamber - has cornea in front, iris and pupil behind. Posterior Chamber, smaller - has iris and pupil in front, lens, ciliary processes and Zonula ciliaris behind. Vitreous Humour composes the bulk of the eye, is held in a delicate membrane called the Hyaloid, which sends in numerous septa, like the coving of the orange

internally; is pierced through its middle by a small artery - running forwards to the lens, transparent &c. - Crystalline Lens - Convex lens, more convex on its posterior than on its anterior face, lies between the iris and vitreous humour, being pressed against the latter, in contact with the ciliary processes &c - by its elastic capsule - also in connection with Zonula ciliaris & ciliary ligament, can be split in three triangular segments, - composed of several distinct lamellae &c,

Optical Apparatus of the Eye and its Mechanism.

1st Cornea - 2nd Aqueus Humour, 3rd Iris, 4th Crystalline Lens, 5th Vitreous Humour, 6th How the Sclerotic and Choroid may aid: Cornea, Being convex and

denser than air operates in two ways, 1st a ray of light falling on a convex transparent surface not perpendicularly is refracted towards the centre,
2nd a pencil of rays falling on a denser medium (transparent of course) is refracted towards a line perpendicular to the point of impaction, i.e. if the rays are not strike perpendicularly - hence it is a convergent apparatus, Aqueous Humour, Keeps the cornea convex and affords a means of motion to the iris.
Iris, A diaphragm regulating the amount of light admitted; For of two lens of the same powers but different diameters, the larger one has an image with edges more or less indistinct, hence the iris cuts off the rays which are too remote from the centre and corrects this spherical aberration, Or it may equalize in impression on the Retina lights of different intensities. Crystalline Lens, a convex, convergent

lens, forming an image at a certain distance be-
hind it, i e at its focus. But this point of forma-
tion of the image is not a fixed point, vary-
ing with the distance of the object, long for
near; short for distant. If the receiving screen
were fixed a difficulty might here arise — in
the eye it is stationary, but the ciliary lig a-
ment (or muscle rather) by contracting
can advance or carry back the lens and
thus partially obviate the difficulty.
Pressure in the periphery of the lens, by the blood in
the Canal of Petit, may increase its density to-
wards the centre and thus aid in correcting this.

Vitreous Humour. May be (as also may be the
Aqueous) a refracting medium, but it keeps the
parts moist and of the proper size and shape.
Sclerotic and Choroid prevents the entrance of light

from any extraneous source, and the black pigment probably absorbs any that may accidentally be so placed as to be thrown again on the retina by reflection. We thus have the full effect of the image formed on the screen by the optical mechanism of the eye.

A lens must have a long focus or small aperture, otherwise a portion of light is decomposed and the image is colored with different hues on its edges, but such is not the case in the eye, what therefore corrects the Chromatic Aberration?

A lens of great dispersive power may be of inferior refracting power — a combination of these two powers in different lens will correct it. ~~But in the eye~~ for instance, Two lens of different materials may have the same

refracting, but very different dispersive powers.
A double convex lens of Crown Glass and a
plano concave one of Flint Glass will effec-
tually correct it. But in the eye we can
not state positively what corrects it,
Probably 1st the iris by cutting off the periph-
eral rays, 2nd by the crystalline lens and the
humours, from difference of their disper-
sive powers &c, This is the Aplanatic arrange-
ment in the eye by which aberations of
sphericity and Chromatic are both corrected,
The above statements give a probable explanation of the two
facts, 1st Sphuical Aberation, or confusion of vi-
2nd Chromatic Aberation from the different rays being
of different refrangible power, Violet being most so
and red least so, therefore violet coming to a short fo-
cus, red to a comparatively long one,

The Eye is a globular Camera Obscura and acts upon that principle, — having the power of self adjustment as regards the foci and a proper aplanatic arrangement, (ens, humans &c

A Camera Obscura consists

1st of a convergent (or double convex lens) by which images may be formed, 2nd a darkened chamber, by which all light is excluded except that through the lens, and by which the image is formed, thus the full effect can be obtained, 3rd a screen for the reception of the image, Glass reflectors are sometimes only as accessories and not absolutely essential, they throw the image in the best position for inspection, The whole affair turns upon the formation of an image in its focus by a convergent lens, The eye has all parts

necessary for such an apparatus and hence is a Camera obscura - 1st " Lens, 2nd " Darkened chamber, 3rd " Screen,

The Eye is globular for two good reasons, 1st " for greater facility of motion and thus to increase the field of vision, or change it as rapidly as desirable, 2nd " it thus gives a concave screen for reception of the image, so all parts of the screen are equally distant from the lens, which latter being convex would be unequally distant from the lens a plane surface and hence indistinctness from confusion of foci would arise.

By retraction or advancing of the lens, different focal distances are obtained - By closing and opening the pupil, different degrees of light are admitted, Spherical and Chromatic abenation are corrected as above

explained. Is the Retina or the Choroid pig-
ment the true screen? Muller, Kolliker &c,
abandoning the old Choroid theory feel that the
Rods or Cones of Jacob are the true perceivers
of light, Dr Draper returns to the Choroid
as the screen and heating movers of different
rays as the explanation of vision.
Advances the following argument to support
his view, "From Comparative Anatomy of the
Organ, 1st the one invariable element
(from the ocelli of the lower tribes up) appears
to be dark pigment granules or the expansion of
a nervous thread. 2nd that black is the most
sensitive color to light and most powerful ab-
sorbing one, i.e so far as heating goes. 3rd the
retina is perfectly transparent, and therefore
offers about as good a screen as air,

4th the sensory surface of the retina is the external one, or one next to the Choroid pigment. 5th the thickness of the retina — since images are only formed with precision and sharpness on an unabrupt surface, such a surface the retina does not give. 6th Chemical effect & heating power of a ray depends upon its absorbtion, directly proportional to it: hence from the sensitiveness of the eye to all rays, we infer its screen must be a superficies and black. Local disturbance of temperature is therefore the first act or commencement of Vision. "The retina composed of Layers 1st tubular, 2nd vesicular 3rd granular, 4 are Jacobs rods against the choroid; The ray papes through the transparent tubule, vesicle, granule and rod, is absorbed by the black pigment, rods or cones being

true tactile organs communicate the changes in the choroid to the vesicles &c. Vesicles undergo rapid changes, tubules conduct impresions to the brain and the granules repair the waste or furnish germs for the vesicles, while the close proximity of the arterial coat furnishes a constant supply of blood and oxygen to disintigrate and build up disintegrated particles — The venous layer carries off the effete ~~particles~~ results of action, i.e remains of oxydation and disintegration.

There are three conditions necessary for the excitement of the retina by external luminous agents. 1st The impresion must have the requisite amount of surface — ordinary light and the visual angle will be probably 15" to 30". If less than 15" object is invisible (unless in a very bright light. 2nd a moderate degree of

illumination, 3rd objects or rather their impressions must remain on 1/10" and can remain about 1/3" even after removal of the object. Example – a circle of fire from a single burning point on a stick provided the stick be hurled around with sufficient rapidity. Points 1/8000 of an inch apart, measuring an angle of 30" about, and corresponding with the dimensions of one of the rods or cones, are recognizable. The duration of the impression varies with the intensity of the light, brighter ones from brighter lights remain longest after the object is removed. A line of visible direction is the axial ray drawn from the optical centre of the lens to the point of vision, perpendicular to the retina and parallel with the axes of the rods or cones of Jacob. Each point of the object therefore making a proper impression on

the retina the whole impression therefore or image corresponds to the sum of the separate impressions. Monocular vision therefore sees the linear dimensions of bodies, color &c as rather intuitive perceptions. The inference therefore is that the perception of plane figures is intuitive, as is also that of relative magnitudes of bodies at some distance The apparent magnitude of bodies by monocular vision is estimated from the visual angle chiefly. But unless the distance be the same or be known the apparent is no true exponent of the real magnitude, But by the size of the visual angle, knowledge of the distance and by intervening objects we form an approximate estimate of real magnitude.

We judge also by the degree of illuminating power how far off an object may be, it decreases as the square of the distance increases, and by intervening objects we judge of distance as well as magnitude. A body in motion is best examined and more accurately when its motion is angular, that is across the field of vision, we judging of the motion by the motion of the image on the retina, and it must be 1° in 1' of time or it will not be perceptible, ie its motion will not be perceived, By the motion of the eyes, adjusting them we also judge of motion Motion therefore in a direct line of vision could only be appreciated by the gradual decreasing size of the object. An object may go so fast as to fail to make or leave an impression on the retina sufficiently long for vision, the object would then not be perceived,

Erectness of bodies with an inverted image,
depend upon the projection out in parallel
lines to the cones of Jacob, of impressions
received, we trace back and see not the image but
the object, by the law of visible direction.
By binocular vision we can judge of size, distance, motion &c,
especially singleness of vision. Why? Because there are
symetrical parts of the retina, i.e. by means of the optic
chiasm, the right and left sides of each eye correspond
respectively. The fibres on the right side of the axis in each
eye go to the right hemisphere of the brain, while a com-
missure connects them without going to the brain at all,
i.e connects the two retinae — hence the image is depicted
on corresponding points of the retina and a single image
is seen. The binocular parallax or the point
of convergence of axes of eyes and the angle thus
formed is also measure of distance.

If size and distance increase together, the angle of convergence or binocular parallax corresponds with and neutralizes the image on the retina or focal angle.

Owing to sickness this Thesis has not been as carefully prepared or as accurately written as could have been wished. As there has been as yet no exposition of the views of Professor Hammond on this subject, the writer will be pardoned if any view herein advanced is in opposition to those of the professor of physiology.

A.

Thesis

on

Primary Syphilis

Respectfully submitted

To the

Faculty. Univ. Maryland —

By.

R. T. Hunt.

Petersburg.

Virginia.

Feby. 1861.

Primary - Syphilis

Amid the long catalogue of diseases to which frail mortals are subject. Here is none more pernicious in its character, more loathsome in its nature, more destructive in its tendency than Syphilis — Concerning the antiquity of this disease little need be said, for it can be traced back to the time the French were besieging Naples, & even much farther I suppose. Perhaps soon after Adam & Eve were driven out of the garden of Eden, then or about that time it commenced & onward has been its march like the shade of the deadly Upas sparing none who dare venture within reach of its contagion. It is now considered a disease of venereal origin being pro-

- duced by inoculation of a peculiar & specific virus under the cuticle or epithelium, & when once introduced either designedly or artificially however small the quantity if not promptly arrested by efficient means, will not only produce chancres in the entire constitution will become involved in the disorder— A chancre may occur on any part of the body Yet its most common sites are the head of the penis & prepuce, the Ulva. Vagina & uterus, it sometimes occurs in the urethra in both sexes, any portion of the head & foreskin of the penis may be affected but most frequently just behind the corona & the frenum— A chancre may also occur on the body & not of penis— In the

female the disease sometimes occurs on the perineum the labia & around the anus. There are two varieties which of late have become exceedingly common in this country & for convenience of description & recognition terms significant of that character have been adopted. Thus we have the simple non-indurated & the indurated or Hunterian chancre. The simple or non-indurated is much milder of the two & more amenable to treatment, because more superficial & consequently more easily destroyed. The system seems also to resist this variety with greater tenacity. It commences usually as a little reddish vesicle which bursting in a few days exhibits an ulcer of worm eaten

appearance discharging a dirty laudaceous pus & having the appear-ance as if cut with a bistoury perpendicular to its surface in addition to this it has a soft yielding base unless complicated with inflammatory hardness. This variety is generally multiple has also a marked destructive tendency as indicated by its often assuming the phagedoenic form These are not however distinctive tests from other sores occuring on the penis— hence the only pathognomonic sign is inoculation. The indurated called Hunterian because so graphically described by Hunter is very easily distinguished from the simple chan-cre. This variety is of small size, oral shape. the surface is hollow. incrusted

with a layer of dirty grayish color.d sympt-
vey adherent. The of the ulcer are hard
& everted, the base hard & well defined -
generally solitary, no distinct areola,
its march is indolent, being destitute
of that burrowing & undermining
appearance. which characterizes the
simple chancre. The hardness is abruptly
circumscribed while the indurating
material plunges deeply into the
sub-jacent cellular tissue & when pressed
between the fingers it gives rise to a
sensation of an elastic cartilaginous
substance recoiling when the pressure
is removed. The hardness is due to an effu-
sion of plastic lymph. into the interior of
the absorbent vessels - Both varieties of
chancre may give rise to Bubo but the com-
plication is rare and is allmost considered
an exceptional effect. in the case of

simple chancre but is almost unavoidable & inevitable in the Mixed chancre.
If of syphilitic nature it is always situated above Poupart's ligament, because when the pus is absorbed by the lymphatics of the penis it cannot be deposited at the saphenous opening or immediately below the above mentioned ligament since they have no direct communication with them, but only those above. Hence an easy diagnosis can be made between a specific bubo & one produced by some irritation or injury of the lower extremities. chancres may be conformed with herpes, balanitis, eczema, & simple fissures &c the result of friction, & other accidents, inoculation is a reliable test but should be avoided as the ulcer resulting from it is often more troublesome than the original ulcer. In the treat-

ment of Chancre his precautions must be observed, to prevent the absorption of the specific poison into the system & the rapid & effectual healing of the sore. Which is best promoted by excision with the Knife though it is extremely painful by escharotics the best of which are the Nitrate of Silver, Nitric acid, acid Nitrate of mercury &c. When an escharotic is employed it is better to make one free application than a number of imperfect ones. Great attention should be paid to rest in the recumbent posture, the diet should be light & unstimulating, and in every case to cleanliness. Which is best secured by ablutions of the penis in tepid water, containing a little common sulphate of Lead &c. after which some emolliant application should be employed. Should healthy action be

procures, the simplest dressings will only be necessary, as simple cerate &c. Should too much swelling & pain be present, the part should be elevated & an emollient poultice employed. The patient should be kept quiet both mentally & bodily. The diet should be light & stimulants positively avoided. The bowels kept open. Chancres may be treated at any stage by caustic antiseptics & remedies adapted to local inflammation. The non-indurated may often be readily cured, if entirely uncomplicated, by a simple effective cauterization; which should not be superficial, but should be so performed as to destroy the surrounding tissues to some extent. This will usually suffice since it rarely ever effects the system. When chancres assumes a phagedenic character, and resists the action of the

Vienna paste, we can resort to the a Nitric acid &c. A solution of Tartrate of Iron & potassa has been recommended to be applied to the sloughing part opium should be administered in liberal doses to allay pain - If the patient is of a full & plethoric habit showing that the power of sanguification is good & active the lancet (by destroying the plasticity of the blood) is to be used without delay, the diet & bowels must be attended to, all stimulants must be avoided, & ~~of~~ mercury if it has not been given. Locally we should apply the warm-water dressing, emollient poultices and a weak solution of the sulphate of copper, tannin & opium - & whenever the other hand this grave complication occurs in patients whose health is below the normal standard, who are weak feeble & labouring under a strumous

or tuberculous diathesis than do anything else but deplete. The whole system clamors for aid & stimulants must be used unsparingly, if you wish to save yr patient from the inevitable consequences which must attend any other course of treatment. The indurated or Hunterian chancre is amendable to the same kind of treatment as the simple so long as it remains local - The ulcer induces cicatrizes spontaneously - without previous cauterization but the disease is not cured & soon effects the system. Cauterization is useful as a means of preventing secondary syphilis after the induration is well marked; Hence Mercury so long regarded as a specific must be given until its constitutional effects are induced. not carried to profuse salivation. because the

mercury will then inflict an injury
alike destructive & injurious. This last
anchor must not be used alone, but
other & subjacents, depuratives &c must
be given as adjuncts. Sometimes however
in spite of the skill & attention of the
physician the patient may have to mod-
ify the condition of his blood, by frequent
indulgences of a debilitating & depress-
ing character that it will no longer
war against & repel this enemy,
but will yield tamely to its influence
& quietly permit it to destroy its
crasis, this undermining corrupts & impure
that which gives life vigor & activity
to every tissue of the body. The disease
has now merged into Secondary syphilis.
This is sometimes inherited by offspring,
but otherwise is always the sequel of
chancre — In other words, a chancre —

is to syphilis what the bite of a mad-
dog is to hydrophobia. There can be no
Constitutional syphilis without the
primary ulcer. except through
hereditary transmission - The most
simple agent the mercurials could
be better. It should be carried just
far enough to affect the gums & no
further. The preparations given are
the Iodide of mercury Calomel com-
bined with opium or if there be any rise
of the surface with morphia & Ipecac-
uanha, blue-mass & bichloride of mer-
cury are often given. the bichloride gen-
erally in tertiary syphilis - Syphilis is
sometimes cured without mercury, but
when indurated chancre is present
it should be employed. the morbid
erections can be controlled by opium.
Phymosis is also often present in which

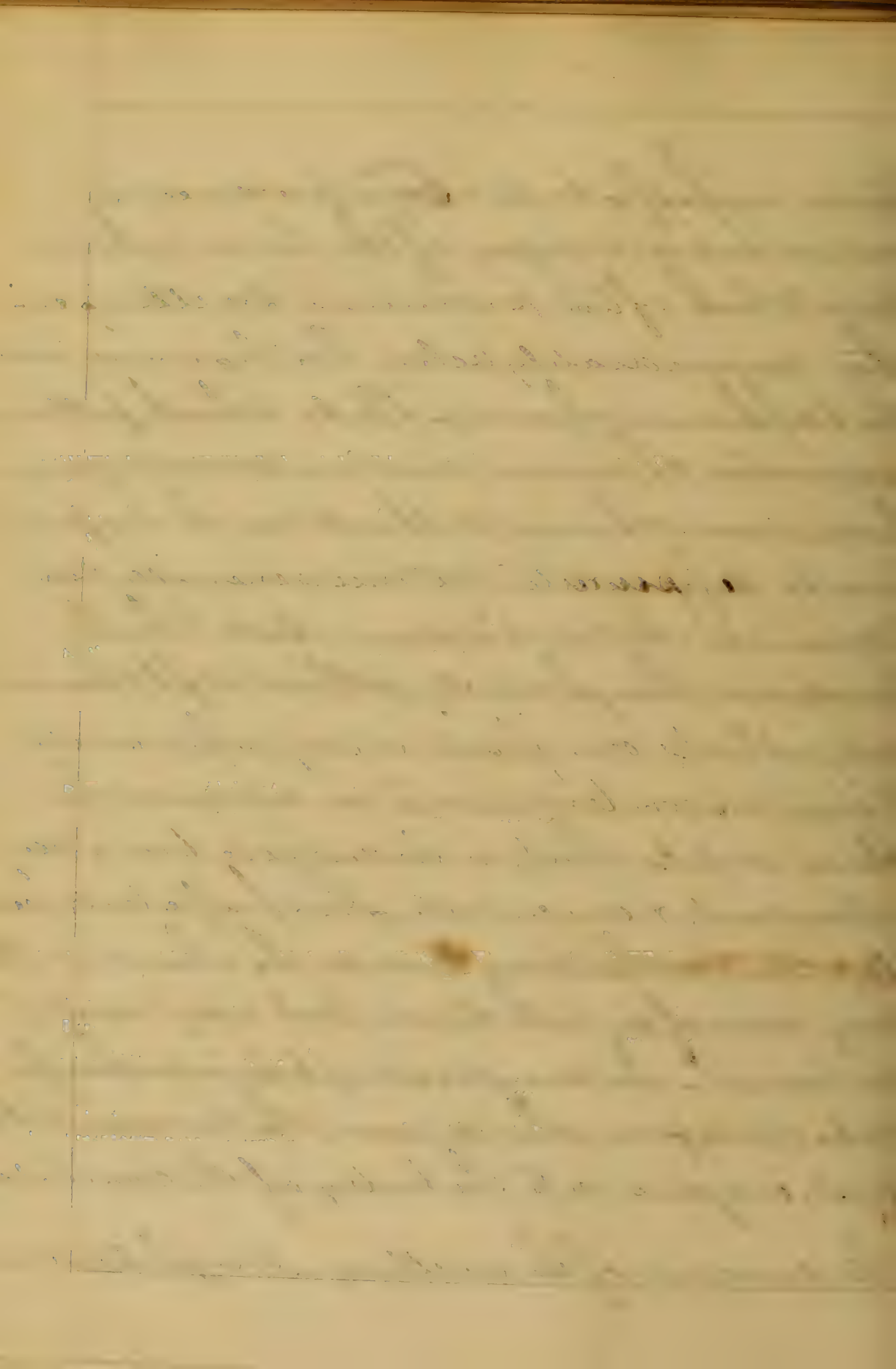
event the parts should be
freely divided upon a groove director
the edges being immediately cauterized
to prevent inoculation — Paraphimosis
may also be present & may give rise
to mortification, which should be
combatted by rubbing the organ well
& an anæsthetic being administered
as the operation is very painful. The
constitution should be reduced by
systematic pressure - should the
attempt fail the stricture must
be divided & the parts after the oper-
ation coated over with collodion -
In mortification when the sloughs
begin to separate you may have
hemorrhage from the dorsal arte-
ry of the penis, in which event you
should cut down & apply a ligature -
Chancres may sometimes attack the urethra

this fact has been known only within a comparatively recent period. Thus gonnorrhea was considered capable of being followed by secondary symptoms. The chancre is usually [illegible] just behind the meatus. It sometimes though very rarely extends over nearly the whole of the urethra, to the neck of the bladder. The discharge is less copious, thinner, a lighter color unless the inflammation is very severe. When it may be profuse. thick & of a bloody character or yellow with a greenish tinge. The disease is usually chronic & seldom gives rise to fever or is followed by bubo. The diagnosis is often very difficult where the chancre is situated further back. The most valuable symptoms, are the latency of the person the obstinacy of the attack. the slightly

scalding in micturition & the variation in the nature of the discharge - the only positive proof is inoculation. The treatment should be conducted upon general anti-syphilitic principles. by cauterization if it can be reached & in the intervals of the cauterization, injections of copper. tannin, acetate of lead & opium - bichloride mercury &c. also a gentle course of mercury has been recommended. As I have described chancre generally their most common sites in both male & female. I will only add that in the treatment of chancres in the female the same general rules must be observed, as in the opposite sex; rest in recumbent posture, active purgation, the warm bath anodynes. diaphoretics. & light diet constitute the principal constitutional remedies -

Locally injections of cold water combined
with some anodyne or astringent, cauter-
ization with nitrate of silver. & solution of
the sores by lints of patent lint medicated
with aromatic wine. tannin. opium &c &
mild course of mercury should be given.
Bubo is an enlargement of one or more of
the lymphatic ganglions of the groin. A
syphilitic bubo (according to Dr Gross) is
chancre of one or more of the lymphatics
of the groin. almost invariably the result
of the inoculated chancre. but may follow
the non-inoculated. always preceded by
chancre. It is caused by the pus being
absorbed by the lymphatics glands of
the groin & passing on is distributed to
the glands above Poupart's ligament.
which are the only glands of the inguinal
canal which communicate with those of
the penis. Hence an easy diagnosis is made

between a specific bubo & one produced by some irritation or injury of the lower extremities. Which often produces a swelling either immediately below Pou. ligament or at the saphenous opening. Bubo which follows inflamed chancre, involves several ganglions, hard & chronic, without much disposition to suppurate, but will generally contaminate the constitution. Bubo which sometimes, though rarely follows soft chancre only attacks one gland, is very rapid in its course & soon terminates in abscess. the fluid unlike that in inflamed, being very abundant & inoculable. The specific bubo usually occurs on the same side as the chancre. Bubo may occur of in both sexes, but very rarely in women. In diagnosing between specific bubo & bubo from other causes, the surgeon should first inquire into the history of the case also the duration of the swelling. A syphilitic bubo



lasts a number of weeks, a simple bubo disappears as soon as the exciting cause is removed. The specific bubo often suppurates & ulcerates, the simple "Seldom if ever & only in strumous constitutions. The matter of a specific bubo is often inoculable, the common never. The situation as regards Poupt's lig. must be borne in mind. The treatment of bubo must be conducted on the same general principles as that of chancre, as it is only another form of chancre. We should first try the abortive treatment, consisting of the application of Tinct. Iodine use of compression with trusses or linen pads. & the spica bandage - leeches may sometimes be employed - Which means failing convert the disease into simple ulcer by the application of some of the caustics, either the vienna paste, or a solution of bi-clo-Mercury - grs xx to ℥i of Alcohol or by means of an excision, always make in direction of Poupa.ts lig. - If sinuses form they

must be laid open in the usual manner
fungous granulations treated with escha^s as
Sulp^s copper. Arquati Nitras or the scissors -
If constitution effected change of air, & all
tonics & alteratives should be administered.
How far the the lymp^s glands are to be consid
-ered guards against the ~~prog~~ ress of the dis-
ease, caught by absorption, is not easily
determined - We must allow, that they can-
not prevent the poison entering the constitution
in cases where it produces bubo, for when
it effects these glands it produces the same
disease in them which is capable of furnish-
ing the constitution an increased quantity of
the same kind of poison, therefore it will
hardly yield in a satisfactory manner
until the system is brought gently under
the influence of Mercury

An
Inaugural Dissertation
On

Anaesthesia;

Submitted to the examination
Of the
Provost, Regents and Faculty of Physic
Of the
University of Maryland,
For the degree of
Doctor of Medicine,
By
R.O. Wyatt.
Of Virginia.

Feb: 14th — 1861.

An
Inaugural Dissertation
On

Hæmoptysis

Submitted to the Examining
Board of the
Medical Department of Pennsylvania
College
for the degree of
Doctor of Medicine

By
Benjamin F. Hippensteel

1861.

Gentlemen.

To write an acceptable thesis on some subject connected with Medicine is required of each candidate before he can receive the degree of M. D. by nearly every institution in our country.

With so illimitable a range of subjects from which to make a selection suitable to his information, it might well be inferred, were the aspirant for a title unable to conform to this requisition, that he was not yet worthy to be licensed with that of Doctor (of Medicine).

We say, such a conclusion

might be legitimately inferred; but we are of decided opinion that no writer of such a thesis could very well sustain himself, testimonially, from a charge of plagiarism, were such preferred against him. He can only present to the Faculty of the institution at which he proposes to graduate such facts and conclusions as are already familiar to them. Now facts show for themselves - they are common prop-erty, for the possession of which not even their discoverer himself can claim a patent. But not so with conclusions; for priority of discovery, or, more properly, of invention, alone makes good a title to them (a circumstance, by the way, which has helped to fill the world with speculative theories and adventitious probabilities). Vast as is the array of known medical facts, it

would nevertheless be next to impossible for the mere student, who has obtained all his knowledge from "the spoken or written word", to fall upon any conclusion in-ductively or deductively therefrom, which has not already commended itself to an older head. Now this is a necessity over which he has no control, for as yet the light of experience has revealed to him no new facts whereupon his judgment may reason and wherefrom deduce legitimate conclusions. The "talents" which he has have been but just now given him; he has not yet had opportunity "to gain other talents".

We presume then that the only object of the requirement is to enforce a candidate to make a professional arrangement of the knowledge he may have acquired of a medical subject and present

it in the form of a thesis to the Faculty, that they may judge of its sufficiency; and that the term "acceptable" in this connexion means that the thesis must be written suâ manû, dictated simultaneously suo cerebro, compounded of no incompatible proposi-sitions, and clad moreover in a becoming garment of good English grammar.

With this interpretation then we proceed to essay our knowledge of

Anaesthesia.

"Sous le nom de Médication Anesthésique nous désignons le mode d'emploi d'un ensemble de médicaments qui possèdent la propriété remarquable d'affaiblir ou d'éteindre plus ou moins complétement la sensibilité. Ces médicaments se rapprochent évidement des antispasmodiques et des nar-

-cotiques, auxquels ils sont unis par des pro-
-priétés communes; mais ils méritent d'occu-
-per une place distincte dans la thérapeu-
-tique, tant par l'uniformité et par la spé-
-cialité de leurs effets que par la rapidité
avec laquelle leur action s'efface, une fois
l'effet thérapeutique obtenu." Trousseau et Pidoux.
Thérapeutique. Tome II. p. 162.

Before entering upon the discus-
-sion of our subject proper, it is first necessary
to physically characterize the more important
agents which produce anaesthesia. They may
be divided into 1. General, and 2. Local.

"The following are the princi-
-pal general anaesthetics - viz: Sulphuric ether,
Chloroform. Many others are mentioned and
sometimes employed, more especially by the
French. Among them are Chloric and com-
-pound ether, chlorohydric and nitric ether,

aldehyde, bisulphide of carbon, benzin, several forms of chlorinated carbon &c &c.

Sulphuric Ether. This interesting compound is prepared by the reaction of SO_3 on alcohol. Its composition is disputed by the chemists. It is a colorless, limpid liquid, of light specific gravity, a peculiar penetrating odor and pungent taste; highly volatile and inflammable; soluble only in nine-tenths of its weight of water, but freely miscible with alcohol; itself is a very general solvent.

When taken into the stomach its first effect is stimulant; secondarily, its most remarkable influence is manifested in relaxing muscular spasm, and to promote this end it is thus most frequently employed - E.g. in hiccough, cramp colic, rheumodic asthma &c. It-

is very useful also in angina pectoris and in the intense agonizing pain of rheumatism or gout when located in the stomach. [Combine the ether with laudanum in the latter case, and the effects of both the narcotic and the stimulant will be speedily manifested]. For neuralgic headache and the paroxysm of bilious fever a most excellent remedy is said to consist of equal parts of sulphuric ether, alcohol, laudanum and spirits of camphor. Owing to the speediness with which ether evaporates and the consequent great reduction of temperature, it is invaluable to the chemist. By reason of this latter property some have recommended its local employment in strangulated hernia to contract the impacted knuckle of intestine.

Chloroform. This substance was discovered according to Trousseau and Pidoux, in 1831 by M M. Souberain and Leibig, each without the knowledge of the other's discovery. Its chem-ical composition has not yet been positively determined, but is usually represented by $C_2 H Cl_3$ - the ter-chloride of formine. It is a col-orless, dense, heavy, volatile liquid; burns with a greenish flame; is not miscible with water; not affected by concentrated sulphu-ric acid; mixes freely with alcohol, and is often adulterated with it. Its purity may be tested by adding a little water to it - if alco-hol be present, a milky cloud will be form-ed - if HCl be the impurity, $AgONO_5$ will throw down the insoluble AgCl - if it be an organic oil, SO_3 will turn it of a dark color - alcoholic solution of potash decomposes it.

Chloroform is thought to be

a better internal remedy than sulphuric ether. The mode of action however is the same in both, and the effects produced are also about the same. Chloroform assuages pain, such as that of cramp or lead colic; it also relieves vomiting when it does not depend upon inflammation - e.g. in the "morning sickness" of pregnancy. It has likewise been found of much benefit in pertussis (here give by measure forty minims of chloroform, mixed with syrup or mucilage to prevent excoriation, and add a little tinct^re of ginger). Chloroform is also often applied locally to relieve pain. e.g. in neuralgia. An excellent liniment is made by mixing oil and chloroform; the oil prevents the evaporation of the chloroform.

Protoxide of Nitrogen is also a general anaesthetic, but its effects supervene and terminate so speedily that it is of little practical use in that connexion.

It is scarcely necessary to describe the other agents of this class, as they are seldom or never employed for their anaesthetic effects.

Of local anaesthetics the most important is Cold. It may be employed in the form of the "freezing mixture", which consists of one part of common salt to two of snow or pounded ice. This should be placed in a gauze bag and applied to the part which is to be congealed. It has been found that any part of the surface of the body may be frozen with impunity, if care be taken not to let it thaw too suddenly. The patient at first feels a tingling; then the spot becomes perfectly white (bloodless) and hard, until finally it is deprived of all sensibility and becomes of about the consistency of tallow. Now we may operate, taking care afterwards to apply ice to prevent

a too sudden and hence too violent reaction or thawing. It usually requires about four minutes to freeze. This local anaesthesia is preferable to the general when it can be employed. It has however as yet been found impossible to freeze the tissues to a greater depth than an inch. This process is hence only applicable to the minor, superficial operations, such as removing carbuncles, extracting foreign bodies, as splinters, needles, &c. The great advantages are that no flow of blood obstructs the sight of the operator, the mental faculties of the patient are in a normal condition, and that his sensibilities (except in the particular, circumscribed locality) are in no way interfered with. Arnott who first described this process, recommends it in certain diseases - E.g. in cancer. He thus explains its action in relieving the pain and retarding the progress of the disease -

-the suffering being due to the spreading of the inflammation, if the cancer be frozen about once a week, this inflammatory pro-
-cess is temporarily checked, and the cancer-
-cells benumbed, the morbid proclivity being thereby greatly impeded. He uses the freezing mixture also in cases of painful ptyalism, rheumatism, lumbago &c. It would seem however in this connection to be rather a se-
-vere remedy.

It is said that if a jet of carbonic acid be made to play upon the surface of a mucous membrane, it will produce local insen-
-ceptibility to pain.

Not long since a great sensa-
-tion was produced in the medical world con-
-cerning the production of anaesthesia by holding a bright object in front of the eyes. The principle has however been thoroughly exploded.

A definition of anaesthesia, taken from Trousseau and Pidoux, has been given. The term however is usually employed to represent the state of insensibility to pain consequent upon the inhalation of some peculiar volatile vapor. It is with this interpretation that we shall employ it, unless modified by some special qualification. Before proceeding to characterize this condition, it may be proper to mention a few points in connection with its history.

To prevent and counteract pain has ever been the physician's study, and in proportion to his success in effecting these results has he been appreciated and esteemed. For the possession of this power (supposed in them to be divine) the ancients held his person to be sacred, the barbarous worship him as a supernatural being, and at the present day even amongst civilized nations, there are

numbers who think him capable and expect of him "to work miracles". His ability to produce oblivion of pain is mentioned and warmly lauded by Pliny, Dioscorides and many other classical authors. Dioscorides mentions the employment of an extract of the root of mandragora before resorting to surgical operations. The anaesthesia said to have been produced was thought to be due to some magical property of the extract. Since the prohibition of foreigners within their borders was abrogated by the Chinese, an examination of their history has made it appear that one of their physicians, named Moathe, during the early part of the third century, administered to his patients some preparation of hemp for the purpose of rendering them insensible to the pain of surgical operations. At a very much later period, theo-

-dorie, author of a work on Surgery, recommend-
-ed highly an electuary or confection, made ac-
-cording to the direction of his master, under the
formidable name of "confectio sophoris a chirurgiâ
facienda, secundum dominum Hugonem". There
were also certain other "medicamenta" which Theo-
dorie himself discovered and was in the habit
of administering to bring about "doloris oblivionem".
In fact numerous instances are recorded in which
from time to time different agents were employed
to effect this result. The administration of some
one of the forms of alcohol, the employment of
hasehish, of magnetism &c, have been warmly
advocated; but the results of their use have
either been highly disastrous or exceedingly un-
-satisfactory. Several methods of producing
local anaesthesia have also been recommended,
but that of Arnott with the freezing mixture is
almost exclusively relied on.

At the present day, since the discovery of sulphuric ether and chloroform, the one or the other of these alone is in the eyes of the profession a fit exemplification of the qualification of a general anaesthetic. We scarcely know to which to yield the palm, for each seems to be a kind of φαρμακον νεπενθες for suffering humanity. The grateful service which they have rendered to mankind is inestimable indeed. Where accident has mangled, crushed or distorted any portion of the human frame; where disease has closed the ventilators of the human tenement; where unchecked malignancy has effaced human symmetry; where the red current of human existence constantly thrusts before it some weakened and yielding portion of its enclosure until the protruding, "pulsating tumor" tells us of speedy danger — when, under such circumstances, life and health clamorously demand the

interference of the surgeon's scalpel and saw, in sulphuric ether or chloroform he kindly furnishes to nature a generous friend that relieves her from the duty of inflicting upon the patient any pain from the keen edge of the one or from the discordant grating of the other. Again, in the in-tense agony which imposes itself upon a parturient woman, when the vis a tergo is insufficient to expel the foetus and manual or instrumental assistance by the accoucheur is required, the le-thiferous influence of these agents has often most opportunely calmed the torturing throes of the maternal sufferer.

We must however not omit to men-tion that in many instances disastrous consequen-ces have resulted from the inhalation of chloro-form. For this reason many eminent men of the profession never administer it except under the most imperative circumstances. Dr. J. S. Davis

of the University of Virginia advises never to em-
-ploy it as an anaesthetic. The noxious influence
is due to a fusel oil which is developed in the
manufacture of chloroform, and not unfre-
-quently to its being administered in too con-
-centrated a form. That the unpleasant con-
-sequences which have resulted from its in-
-halation were, for the most part, due to the
impurities which were present is proven by
the fact that, when properly administered, such
untoward consequences very rarely attend
the inhalation of pure chloroform. By a pe-
-culiar process Dr. Squibb of Brooklyn, New
York, has succeeded in obtaining chloroform
very nearly if not entirely pure. It is known
as "Squibb's chloroform", and should always
be employed when we wish to avail ourselves
of the anaesthetic property of chloroform. In
spite however of the most intelligent precaution

as to its purity and skill in the method of its administration, disastrous results do nevertheless sometimes attend its employment.

Anaesthetics differ materially from narcotics, although they are cousins-german. They both mitigate pain, but a narcotic must be given in doses proportional to the intensity of the pain in order that its effects may be secured; ether or chloroform will produce their effects in the same dose without regard to the presence or absence of pain. By protracted use narcotics lose their control over the system; anaesthetics are subject to no such influence of habit. Moreover, anaesthetic effects speedily wear off and may be prolonged ad libitum by the renewal of the application at appropriate intervals. From these facts Flourens concluded that when an agent produces the same effect at all times and under all circumstances

on the whole animal kingdom – that effect be-
-ing insensibility to pain – such an agent is an
anaesthetic, and is thus distinguished from a nar-
-cotic. This definition however scarcely seems to
be sufficiently discriminative.

Sulphuric ether and chloroform
are also classified in the Materia Medica
under the head of <u>antispasmodics</u>. In fact,
through these two agents, anaesthetics and an-
-tispasmodics are sometimes approximated into
such intimate relationship that it is well-nigh
impossible to draw an accurate line of demark-
-ation between them. The attempt therefore
should neither be expected nor required in an
article of this kind. Suffice it to say then that
as far as sulphuric ether and chloroform are
concerned, anaesthetics and antispasmodics are
under some particular circumstances almost
correlative terms.

The ordinary mode of administering anaesthetics is to pour a certain quantity of the liquid on a sponge or handkerchief and cause the patient to inhale ~~the patient to inhale~~ the vapor, taking care at the same time that it be sufficiently diluted with air. A better method consists in rolling a stiffly-starched napkin into the shape of a hollow cone, pouring the ether or chloroform into it, and causing the patient to inhale; dilution with air is thus certainly secured. Inhaling instruments are never employed in this country. Anaesthesia may be produced by administering the agents through the mouth; it is said that their effects have also been brought about in five minutes by throwing the vapor into the rectum.

The <u>modus operandi</u> of these agents is doubtless by absorption into the blood and transmission thence of their influence to the nervous system.

When inhaled, their first effect is the manifestation in various ways of a greater or less degree of gen-eral excitement. This lasts for a few moments and then gives place to derangement of general sensibility - then confusion of thought - aberration of emotion and will - drowsiness and sleep, with slow breath-ing and pulse - This become deeper until stupor supervenes and the muscular system is relaxed. Now is the time for operating, the anaesthesia being sufficiently complete. Premonitory signs al-ways indicate whether it may be necessary to renew the application; if pushed too far profound coma supervenes and the action of the heart is arrested. It is disputed whether apnoea or syncope be precedent. Paget thinks that the latter precedes; the majority of the profession however appear to favor the former idea.

When taken into the stomach these agents act as a gentle stimulants to that organ, and in ~~fact~~ a

short-while as a sedative to the whole system, particularly that portion presided over by the cer-ebro-spinal influence. The supervention of symp-toms here is the reverse of that which attends inhalation.

When applied topically, Chloroform first irritates the part and acts as a rubefacient, causing a flow of blood and nervous influence to it. It thus serves as a counter-irritant.

Precautions. Always give a little brandy before administering anaesthetics, but accidentally the ner-vous centres become completely paralyzed and no consequent reaction come on. See that the article be pure and the vapor be sufficiently diluted with air. Do not employ the agent if the patient object; but if he demand it, the responsibility will then rest upon himself alone. Enjoin perfect silence. Watch vigilantly the condition of the pulse and respiration, (for this purpose have a special com-

-petent assistant) and if signs of Syncope or ap-
-noea appear imminent apply appropriate meas-
-ures for resuscitation. Do not operate so long
as any degree of sensibility is manifested by con-
-traction when the eye-lid is touched; or until,
if the patient's hand have grasped you, it relaxes
its hold and drops powerless. Never administer
an anaesthetic to any patient laboring under
organic disease of the lungs, heart or brain; or
where there is any tendency to apoplexy — never
indeed to patients exhausted from any cause;
never to the very old; and use them with great
reluctance in infancy. Do not employ them
in any trifling minor operation, such as the
amputation of a finger or toe, &c, for the operation
is not of sufficient gravity to permit the surgeon
to subject his patient to such risk. As stated
above, even with these precautions most intelli-
-gently directed, fatal consequences have attend-

-ed their administration. In fact death has been known to occur to those who had been happily anaesthetized before, and under precisely similar circumstances. No truly honest man will then administer them except after the maturest deliberation and under the most urgent necessity.

We therefore conclude that anaesthetics should be administered whenever the pain of an operation would constitute an additional element of danger, and not otherwise. Statistics show that pain does constitute an additional element of danger, for before the discovery of anaesthetics, in amputations of the thigh forty four per cent died, and since their employment, not twenty two per cent die. This shows clearly that the pain alone killed one half, unless indeed we gratuitously suppose that the success of modern surgeons is entirely due to their increased skill and the more perfect adaptation of instruments.

Therapeutical application of general anaesthetics. The indications which bespeak their employment have, to a considerable extent, been already incidentally mentioned. The great philosopher, Lord Bacon, said "as exception strengthens the force of a law in cases not excepted; so enumeration weakens it in cases not enumerated". We will therefore neither state all the exceptions nor enumerate all the instances in which the law for withholding or administering these agents will be found to hold good. The success of the practitioner in this connection will depend solely upon his judgment. It is necessary however that we should here exhibit some general knowledge of both the negative and positive indications. The negative have, for the most part, been already mentioned when speaking of precautions against their use; to interpret accurately the positive often taxes the skill of the practitioner to the very utmost.

In <u>obstetrical</u> practice anaesthesia was first taken advantage of to relieve the pains of parturition by Prof. Simpson, of Edinburgh, on the 19th of Jan. 1847. News of its beneficial influence soon spread abroad, but for a long time many of even the more enlightened of the profession were clamorous in their objections to its employment, and that too on the most trivial grounds. It is now however admitted by nearly all that anaesthesia promotes the relaxation of the soft parts of the mother, renders her perineum less resistant, overcomes the rigidity of the os uteri, combats the after pains &c. Dr. Cotting, of Roxbury, Mass. gives the following summary of his conclusions on this subject. They are well drawn, but are of course only meant to be <u>general</u>.

I. That in ordinary cases of midwifery, while ether may be allowed in moderation when importunately demanded by the patient, it is quite as

well, in the long run, to say the least, to let normal, uncomplicated labors proceed uninterfered with.

II. That in painful, laborious, or complicated labors, and in cases of great tenderness or great rigidity of the organs of extraordinary susceptibility to pain, and where there is great nervous irritability, or undue apprehension of danger, ether, if favorably received, should be used to the extent of overcoming the abnormal condition and suffering.

III. That in cases requiring manual or instrumental interference, ether should be used to the same extent, and upon the same general principles as in other operations involving pain and danger to the patient.

IV. That in puerperal convulsions, especially those having the character of uraemic eclampsia, ether should be given as soon as

there are indications of an approaching fit, and be continued, if seemingly efficacious, until the paroxysm has subsided and quiet sleep is induced; or until other medicine, if desirable can be swal-
-lowed, care being taken to allow a sufficiently large quantity of pure air, and not to continue the ether if coma supervene.

V. That as all volatile anaesthetics yet known, except ether, have been known to cause severe accidents, and even instant death, though given with the greatest care by experienced practicioners, and this too before any consider-
-able quantity had been inhaled; Ether only should be used as an anaesthetic in midwifery.

This last proposition involves a very singular fact, viz: that while ether as well as Chloroform has caused death during surgical opera-
-tions, yet no death has ever been recorded as attend-
-ing the administration of ether in parturition. Aside

from the more general influence of individual susceptibilities to the use of chloroform, this is probably due to the fact that the constitutions of parturient women are not so frequently shattered by previous disease or prostrated by severe shock from recent injury, as is usually the case when capital surgical operations are required. Moreover, now that the profession has become better educated with regard to the proper manufacture and administration of chloroform, Stille affirms that "there is not a single case on record of death, during parturition, from chloroform administered by a competent practicioner of medicine." Certain it is however that chloroform is a far more dangerous agent than ether; but then its advantages are that it is more rapid, complete and persistent in its action - a less quantity is required (only $\frac{1}{60}$ of the amount capable of solution by the blood, which amount is about equal to 12 drops) - its influence is more agreable and its odor more pleasant - it is less inflam-

-mable and may therefore be employed by night with more safety. Obstetrics therefore presents many moments at which chloroform may be made productive of the highest and most grateful benefit. Still however the responsibility of the practicioner who employs this agent indiscriminately is indeed fearful. It may be here remarked that obstetricians generally think that the safety of the child is not jeopardized by the administration of either chloroform or ether to the parturient mother. It is thought too that uterine contractility is not affected even when the whole system is relaxed under their influence.

In surgery the advantages of anaesthesia are, to the patient, that the pain is annihilated, and, to the surgeon, that the insensibility to the pain renders the patient willing to be operated on in time, thus increasing the chance of success; that there is no unnecessary delay; and that he can operate with more deliberation and caution and thus avoid a sudden cut or thrust into vital organs which may

might otherwise be caused by an involuntary spasmod-
-ic movement of the patient. The surgeon avails himself of
anaesthesia in all capital operations, as well as in
many of the minor, unless circumstances positively con-
-tra-indicate. This in fact he is almost forced to do
from the fact that as the people generally are aware that
anaesthetics abrogate pain, a patient now can seldom
or never be found who is willing to submit to an operation
without them. They prefer to run the risk of losing their lives
to enduring a few moments of pain. In certain operations
in ophthalmic surgery, anaesthesia is productive of great bene-
-fit. E.g. in spasmodic contraction of the muscles and lids,
extirpation of tumors, foreign bodies within the globe
&c, &c. Some good and respectable authorities alto-
-gether condemn its employment in surgery, affirming
that its dangers and disadvantages more than counter-bal-
-ance its advantages.

In the practice of dentristry great benefit has attended
the administration of anaesthetics.

In the practice of general medicine these agents are often employed to relax spasm and relieve pain. eg. in tetanus this is the only treatment; many cases have been moderated and a few have been cured by them. In fact nearly every painful or convulsive affection involving derangement of sensation and motion may be more or less benefitted by them. During the passage of a calculus along the ductus communis choledochus or ureter (which by the way, causes the most exquisite pain with which mankind can be tortured) - in neuralgia - in mania a potû - in pertussis - in hysteria, epilepsy, &c, many remarkable cases of their efficacy are recorded. In asthma and dyspnoea without organic disease - in some infantile affections, as convulsions, when cold to the head, warm baths, revulsives, &c. have failed, anaesthesies have effected cures. The greatest care and discrimination are however requisite in their administration to infants on account of their tenderness. They should here be the dernier ressort.

An

Inaugural Dissertation on

Asthma

Submitted to the examination

of the

Provost, Regents and Faculty of Physic

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

James A. Hamilton

of Virginia.

Gentlemen,

It is with diffidence that I submit this, for your perusal, knowing that the Medical area, extensive as it is, has been fully explored; however, my investigations might bring startling facts to the eyes of every man, sufficient to overturn & destroy the worn pillar planted by the loftiest intellects and confirmed by the purest hearts, & to strengthen the powerful & masterly work. It would however be presumptious to suppose that a student, having only a few years for the perusal of the labors of others, could be the originator of such investigations. If a Man is an intellectual being, but having not the power of acquiring all of his knowledge at once & without any experience makes him unconnected with the past & unacquainted with the present. This then is a sentiment which calls him into action, & his progress in Art & Science

i suppressing, It is reasonable to suppose that this is more applicable to those persons who have passed the days of excitement of an anticipated diploma & have watched the progress of diseases & in a solitary cabinet in the mid-hour of night, have weighed intellectually their own observations. Upon those we must depend, to reveal the seeming hidden treasures of our Maker, & not the [illegible] who really know not their own opinion for the diff. theories presented by various writers for their consideration & many only calculated to fill the mind with fallacious notions. Then if we should from the multiplicity of theories select such as our convictions prompt us to be correct & sustain them with originality of words & due attention to our language. Will not our task be done? If so I fully recognize

My duty I have selected from the vocabulary of diseases which mankind are liable. Apoplexy, as the theme, Meaning literally to strike. It is characterized by a suspension of the functions of the brain, without a corresponding cessation of respiration & circulation, but they become more or less disturbed. The above definition although including the characteristic phenomena of the disease, requires to be more explicit inorder to comprehend the idea intended to be implied by the term Apoplexy, in contradistinction to other diseases, manifesting the same phenomena, different in nature and demanding quite different treatment. Therefore, in presenting the following remarks two facts will be kept in view. 1st That the brain is compressible 2nd That pressure within the cranium is essential for the production of apoplexy.

By including in the definition the essential cause, the limits of true apoplexy will be more obvious, & the mimetia which different authors have not themselves agreed upon can be avoided, as they are inappropriate & unnecessary on such an occasion.

The division of apoplexy into simple, serous & sanguineous is founded upon partial truth, but as the different forms can not be distinguished with any degree of accuracy, no practical advantage can be derived, for the treatment although based upon the pathological conditions of the brain, is governed more by the outward signs, which are equally applicable to any one of the varieties. So far the attempt has been made, to pave the way & mark the limits of the disease & how imperfect it may be, it is certainly a safe guide.

Premises attending the access of disease,
it will be obvious that certain signs must
precede the attack, as indicating the ap-
proaching evil. This is one of the wise
provisions of nature, for she seldom
strikes a blow, without giving warning;
thus it is, plainly manifested in the
disease under consideration, for it
seldom occurs without premonitory
symptoms to notify its approach. It fre-
quently happens however, that they are
of so short duration or so slight, as
not to attract attention. The means
of recognizing them must be obvious
to all, for it is possible at this time
to avert or to ameliorate the attack.
The most common premonitory
are, a continual drowsiness during the

an inclination to sleep at unusual times, frequently of a very irregular, accompanied with horrible dreams & after snoring breathing, headache, vomiting, neuralgia of one or both sides of the face, motes floating before the eyes, bright corruscations, burning darkness, double or dimness of vision, hearing more or less impaired, flush'd face, pulsation of the arteries, turgidity of the veins, formication of the surface, frequently loss of recollection to some extent, confusion of words, pains in the limbs, fatigue on slight exertions & many others, similar in character. Of these premonitory signs, there may be one or more preceding the attack, continuing for several minutes, or days, or months, or they may be so slight & pass off with such rapidity, as not to be observed by the patient.

In some few instances the attack rushes in without any premonitory sign. As, many of these symptoms are met with in other maladies, when there is not the slightest danger of an Apoplectic attack, it becomes an important fact, to know, when they may be considered as indication of the approaching evil. If a number of such symptoms are present & could not be traced to the causes, from which they generally originate, & the predisposing causes which are favorable to the production of Apoplexy were apparent, there could be but little doubt of the existing evil & we might we say to the patient Memento mori. Headache for instance is a common disease, attacking the old & the young, indeed it is the daily companion of many persons, it would

however awaken the fears of the patient or his practitioner, if he was old, his ancestors subject to the disease, if it was of rare occurrence & could not be traced to any obvious cause. Again, the loss of Memory which is a very common precursory symptom, appears to be a natural supervention of old age the very period at which apoplexy is most common, but the difference between the char^s of the mental derangements being so plain there is but little difficulty in discriminating the two. Old persons are liable to forget the most recent events, while things which happen in childhood remain bright upon their memories, this is due probably to the degree of attention at the two periods of life, being more strongly impressed upon the mind in child-hood & scarcely notice in old age.

This may be easily shown by relating, startling news to him, attracting this special attention impressing the event upon their minds. When there is a tendency to apoplexy, the most common words are forgotten & those used, with an entire different meaning, the names of the most intimate acquaintances are often forgotten, in addition to this other signs being present, would confirm the diagnosis. If judicious remedies have not been used or if the symptoms were not such as to attract attention, the attack subsequently is characterized by loss of consciousness. Sensation & voluntary motion to a greater or less extent. The patient can not be roused when spoken to or shaken, a limb if raised will fall if though deprived of life, the special senses are effected, the pupil either dilated or contracted & entirely motionless,

the face is flush, expression lost; respiration retarded & often stertorous, puffing out of the cheeks during expiration, circulation is to some extent impeded, the pulse which is characteristic, is slow, full & strong, but in some instances it is feeble, deglutition is often difficult & many times impossible, the bowels are almost invariably costive & many times involuntary evacuations follows, especially of the bladder, Spasmodic contractions of the limbs of both sides, or of one while the other remains relaxed, the patient may remain in this condition for a few minutes, only to continue for several days, in the mean-time, if it does not terminate fatally, it will gradually pass under judicious treatment, the patient recovering without any obvious injurious effects resulting from the attack.

But more frequently the patient is left in a jeopardous condition, death in one form or another is a very common occurrence. If it is to terminate fatally, it seldome does so for several hours or days. When the coma becomes deep, a cold profuse perspiration flows from the surface, the pulse weak & frequent & respiration gradually diminishes until it ceases altogether. The above is the most common form of this malady, but it is far from being the only one, for there are but few diseases presenting a greater variety of modes of attack, or depending upon a greater diversity of lesions of the organ affected. It is from this cause that it is so difficult of investigation. ~~and~~ It will not be appropriate to do more than to refer to them in this connection.

In some instances the attack comes on more gradually, but increasing, until the patient sinks into a profound coma. In other cases, consciousness, sensation or voluntary motion are not entirely lost; this however is not of frequent occurrence & due probably to the situation of the pressure, which will be fully described in another connection. Instead of flush face, full, strong & slow pulse, the reverse is often seen & many times the flush face is accompanied with a frequent pulse. In referring to the varieties of the attack it is right & proper that the division made by the distinguished & honest Medical Observer should be noticed. His first form, is similar to the one given above. The second is characterized by a violent pain in the head, paleness of the face, nausea, vomiting &c, the patient

frequently falls, but recovers again with great rapidity, but after a varying interval however, the attack returns, which gradually merges into stupor & coma & death soon follows. The thing rarely, can not strictly be classed with the two preceding, under the definition here adopted, it is however ushered in with hemaplegia. The duration of the attack is exceedingly variable, in some instances it may terminate fatally in a few minutes, especially in the most severe & sudden forms. & In rare cases the attack may pass off in a few minutes, without any serious effects. In other cases the attack may last for hours, days or a week and finally terminating favorably, but more often, in death & almost invariably so, in the second class of cases described by Dr Abercrombie

Terminations.- It frequently happens that the patient after an apoplectic attack is able to engage in his daily vocations, but with his perfect recovery is exceedingly doubtful for it is obvious to all that the patient is left in an enfeebled condition, easily excited, tiring &c. producing a tendency to a subsequent attack, which is greater than before proving satisfactory, that the mental faculties are more or less affected. In such cases the patient is generally taken off by a subsequent attack or by a general failure of the vital functions. Cases are on record, in which there was a large quantity of blood effused into an artificial cavity or some one of the ventricles & the patient recovering without any obvious defect. To deny this would be most to presumptuous upon my part.

but really, such is not obvious from ratiocination, for there remains a dull form cavity, containing blood or serum, of a varying quantity, from a few drops to several ounces, which may or may not be absorbed, if not there is a continual pressure existing upon the brain. To this however might be responded, that the brain is so constructed as to adapt itself to almost any pressure, while this may be possible, it is more probable, that when the brain is compressed, it is not capable of performing the duty imposed upon him. Again there is the cavity which was formed by breaking down the cerebral tissue, is it possible that such a change can be produced without serious consequences arising? If so I am in total darkness, especially if the cavity is of large size.

From these & other facts, it would appear that a patient can recover sufficiently to enter again in the routine of active life, but the mind & body are never as vigorous & perfect as before the attack. It may also terminate in Cerebritis consequent upon inflammation exciting in the cerebral substance by the presence of effused blood &c. involving generally the Meninges & Membranes, producing Delirium or other Mental derangements. When we consider that the brain is the centre of communication of every part of the body, it is obvious that the nervous system must participate more or less, in proportion to the lesions produced, resulting in Epilepsy, Eclampsia, Hysteria, Paralysis &c. Of the first three, they are of rare terminations, but sometimes they do occur. It is the

last which occurs most frequently & its complications so varied that it requires special attention. It must be admitted that they are closely connected, for often the same seats or parts affected produce both diseases, originating from the same causes, under similar circumstances, having the same structural changes, varying only in grade & often requiring similar treatment. The mode of complication is very diversified, palsy may supervene cotemporary with apoplexy, or as the attack subsides, or after it disappears. Often when a patient begins to recover from the sudden shock, he finds himself helpless to a great or less degree & in a manner conformable to the character & nature of the paralysis which supervenes.

One half of the body may be affected or certain limbs of one side, assuming the form of hemiplegia or partial hemiplegia. In some instances the lower extremities are affected or paraplegia supervenes, this lower is rare, being a more frequent result of diseases of the spine. Partial hemiplegia is the most frequent termination, the arm or leg, especially the former, having if deprived of life. If both are affected, the leg recovers & the patient able to walk upon it, while the arm hangs by the side perfectly motionless. The muscles of the face are often affected, which results in distortion of the mouth in consequence, of the muscles of the non-affected side are not counteracted & balanced by the muscles of the paralysed side. In some instances the

patient can not articulate his words. in consequence of one half of the tongue being paralysed, it is with difficulty that he can protrude it, which always points to the affected side, because the muscles of that side have no power to act, can not counterbalance the muscles of opposite side. Light, speech deglutition, become involved frequently. Certain set of muscles of a limb may be affected, with the loss of motion & sensation while others remain entire, for. In some few instances, sensation or motion is lost, according as the afferent or efferent nerves are involved, but this is not often the result of apoplexy. The patient is generally sensible of his condition but often incoherent & without recollection. Palsy may follow any form of apoplexy, it is

however seldom wanting, after recovery &c. It may be slight & of short duration, or it may become the most prominent symptom & continue for months or years, or it may become permanent. On dissection, the lesion of the brain is found to be on the side opposite of the paralysis. This is due to the decussation of the nerves in the Medulla Oblongata, This is the general rule, but the reverse is frequently met with. If the brain presents two lesions one upon each side, both sides are affected or the side opposite the greater lesion. The same law holds good, in reference to the face, but why it is not known, as the nerves supplying the face, arise above the point of decussation, It may be possible that they have not been traced to their proper origin.

But another fact of a peculiar nature presents itself. When the Cerebellum is the seat of the lesion, not the same thing is manifested. The most plausible explanation is, that the inferior pyramids & the pons Varolii are connected by nervous filaments from the Cerebellum, through which impressions are readily transmitted. Why the arm should remain affected longer and prove more obstinate to treatment, is not known. It may be possible, that the nervous centers, upon which the arm is dependant are more liable from their situation to be injured, for we know that palsy is due to the disorganization of the various Cords or Centres, which results in the loss of sensation & Voluntary motion in those parts to which the nerves are distributed.

Morbid Anatomy.— It has been found that apoplexy may occur in persons without any observable lesion of the brain, that such is the fact must be admitted, as it is from unexceptionable authenticity, however it is of a rare occurrence. In some instances congestion of the whole vascular system — the encephalon, diaphragm &c is the only morbid appearance observable, or it may be accompanied with a slight serous effusion, or this effusion may be very extensive, occupying the lateral ventricles, which frequently forms a communication with the third, demolishing the septum-lucidum & the fornix, frequently a small gray mass is formed which floats in the serosity within the cavity. The serum is often limpid, but more frequently of a yellowish-red color.

The most frequent lesion of the brain, is the result of hemorrhage or extravasation of blood, which may be found between the membranes, in the ventricles, in the substance of the brain, either extravasated, or in an artificial cavity, in one hemisphere, over the surface of the brain &c. If the hemorrhage is extensive it bursts its way, through the tissues into the ventricles, or forms an artificial cavity in the substance of the brain, of various dimensions, from a size of a pea to that of an egg, containing several drops to several ounces. It presents an irregular surface, very soft of a deep red color for a few lines immediately around the cavity, but gradually becoming firmer of a cream color as we retrocede, emerging so gradual that the line of demarcation can not be pointed out.

A membrane is formed from the new surface which lines the cavity & after an indefinite time the blood may be absorbed, the parts around the cavity assuming their original color & firmness. The surface of the cavity becomes smooth & contracts as the blood disappears & according to some writers the cavity becomes obliterated by the process of cicatrization; by others, connected by small fibrous filaments or always containing a serous liquid. Frequently this blood becomes solid & undergoes organization, deriving its supplies from the vessels of the brain, Unfortunately this is not always the result. Dr Watson describes a case in which the clot set up destructive inflammation, with a fatal consequence.

We come next to the blood-vessels which are almost invariably diseased, Atheromatous deposits are very common, producing an ulceration into

calibre of the arteries, destroying the vital properties which render them thin & fragile & liable to rupture. The osseous or cretaceous deposits, lead to a like result. The veins, sinuses &c are often diseased, aneurisms, tumors &c are also present, The Cerebellum, Pons-Varolii are in some few instances the seat of the disease A very frequent form of hemorrhage, is that which occurs in the tissue of the brain & is near the vicinity of the Corpora-striata & Optic thalami, due to the great vascularity of that region. It is from this form of apoplexy, that fatal cases most frequently occur. It will be necessary to notice the cause & contingent occasions of apoplexy, as they furnish the basis of a judicious treatment, before, during & after the attack, possessing as they do, a direct or indirect influence upon the circulation & vital energy of the

brain, They are divided into predisposing, and exciting causes. Of the former variety, Inheritance is one of the most prominent. Sex has a great influence, Males being more liable then females, due probably to their habits, as well as being more exposed to the exciting causes. Persons from the age of 50-70 are more liable to the disease, then at any other age, though the young are not altogether exempt. This is thought to depend upon the diseased condition of the arteries, especially those containing atheromatous deposits occurring more frequently in the old. A certain conformation of the body, was thought at one time to act as a predisposing cause, but I think this view has been exploded. Diseases of the heart, are said to predispose to apoplexy, of these hypertrophy of the left ventricle, was considered the most common cause,

by increasing the momentum of the blood to the brain. It is now known to be dilatation of the right ventricle of the heart. Dr Watson thinks that other diseases of the heart & arteries exist in combination with the hypertrophy. Sedentary life, with high living, have a similar effect only in a less degree by generating plethora. Morbid conditions of the kidneys, which render them incapable of performing the duty involved upon them resulting in the contamination of the blood with urea &c, cutting off the supply of nutriment from the brain & the tissues generally, destroying equilibrium of function & leaving the coats of the blood-vessels in a depraved & relaxed condition, thereby promoting effusion of serum & a condition liable to result in hemorrhage. Diseases of the Lungs & Liver will have a similar effect. The fine-any thing, producing a determination of

blood to the head or retention in the head, generating plethora, diminishing the vital energy of the brain &c, act as a predisposing causes, under these, might be mentioned, long intense thought, anger fear, excitement, bodily or mental exertions carried to excess, stooping, suppression of accostomed hemorrhages, extremes of temperature, sleeping to long or after a full meal with the head low, sexual indulgence, too much animal food, use of tobacco, alcoholic drinks & numerous others might be mentioned, similar in character. Of the exciting causes, many of them are the same as just have been mentioned, but manifesting themselves in a more sudden manner & in an intense degree. Any violent muscular action, which increases the hearts action, hastening the circulation,

and driving the blood against the walls of the arteries with such momentum as to produce hemorrhage, favor the production of apoplexy. Any thing favoring the accumulation of blood in the brain as inverted posture, tight ligatures around the neck, tumors pressing upon jugular vein, stimulants to the head externally by heat & internally by alcoholic liquors, intemperance in eating, for if the stomach is too full, it may impede the circulation through the lungs, prevent the decent of the diaphragm &c, to some extent. Cold by preventing the superficial circulation & promoting the accumulation of blood in the large vessels of the interior of the body, which might result in the formation of certain diseases of the chest; which would prevent the

return of venous blood from the head. The habitual use of narcotics, exposure to deliterious gases & other similar agents, first, by exciting & then exhausting the vital energy, retarding the circulation in the veins & increasing it in the arteries, benumbing the nerves by the increase pressure produced & finally suspending the functions of the brain, are some of the frequent causes. But in some cases the attack supervenes without any obvious exciting causes, probably while sitting or sleeping, thus apparently in health. This is a great misery, but there must be an evil existing yet not obvious both human eye. Again, of these exciting causes the young are more exposed than the old, yet Apoplexy seldom occurs in the former, while it is frequent in the latter,

having conclusively that the exciting causes are not sufficient to produce the disease without some other influence, peculiar to some persons, especially the old. The brain is inclosed in a bony unyielding case, with membranes interposing between the brain & these cases, which assist in supporting, protecting & securing the contents. The brain being compressible, it is readily conceivable how pressure is produced, originating from congestion of the cerebral vessels. This congestion may be active or passive, as the seat is in the veins or arteries, being passive in the former & active in the latter & dependent upon some obstacle, preventing the return of blood from the head in one case & some irritant inviting the blood to the head in the other, resulting in the effusion of serum or Hemorrhage.

That this congestion produces ~~congest~~ pressure can not be doubted, for as the blood is invited or driven to the head, the arteries must convey more blood than usual, resulting in distention, & occupying in consequence every compressible space, the circulation through the veins is retarded & congestion in the capillaries is the result. If there is any thing which prevents the blood from returning through the veins, they become distended & the arteries are compressed. In both cases the organ suffers from pressure & loss of the proper pabulum which is essential for the support of the cerebral functions, given rise as we have seen of various symptoms characterizing Apoplexy. That pressure is produced from serous & sanguineous effusions, is to evident to demand explination.

Those cases where no lesion can be found in the encephalon or its vessels, do not prove that pressure is not essential for the production of apoplexy, for it is probable that congestion, though slight might have existed in the hurried manner, in which examinations are so frequently made, has overlooked. This however is no proof, as we have no reason to suppose that every examination made, was imperfect; but, again, it is not impossible for the congestion to have disappeared just before or immediately after death. Those who argue that pressure is not essential contributes opposing in many instances to the loss of the power of the capillaries, this theory carried out, will only prove what has been stating, for such a defect of the capillaries will produce congestion, if it

was not the cause of it. It may then be said that the brain being compressible & situated in an unyielding case, is liable to be affected by pressure, which is the essential cause of apoplexy.

Diagnosis. It is not possible to destinguish the various forms of the disease, with any degree of accuracy, for it often happens that the symptoms indicate one form & upon examination another will be found to exist. Fortunately however no practical advantage could be gained, from a correct diagnosis, as the treatment is nearly the same. However a very plausible conclusion can be reached in some instances, for instance when the attack is of a short duration, not followed by paralysis & the mind not obviously affected, the inference would be, that it was

congestion, if active may it be determined by the red & flush face, full & strong pulse. While a cerise hue & weak pulse would indicate passive congestion. Of dropsical diathesis, accompanied with paralysis would indicate a serous effusion, While hemorrhage are most invariably followed by paralysis, the extent of the paralysis being probably in proportion to that of the hemorrhage. The seat of the lesion is generally opposite that of the paralysis. Apoplexy may be easily recognized, when it is well marked, but frequently, the diagnosis is difficult & can only be told by the previous history of the case. When coma occurs suddenly, with a full & strong pulse, flush face, stertorous but slow breathing, the ~~coma~~ presumption would be coma from apoplexy & the diagnosis would be confirmed by the presence of paralysis.

When the face is pale, pulse slow & paralysis there the case would be one of more difficulty, & the only dependance would be, upon the history of the case, the absence of those characteristic signs in other diseases, &c, age of the patient &c. The coma which supervenes on Mirangitis would be diagnostically chiefly by the symptoms preceding the coma. The loss of sense being greater than that of motion. From an epileptic fit, by the violent convulsions, while in apoplexy there is no motion, again the epileptic fit gradually subsides into coma, the face pale, pulse feeble, foaming at the mouth, but no snoring stertorous breathing, no paralysis by, these with the previous history, would be sufficient. As to Hysteria it generally attacks females during some Menstrual disturbance, between the age of fifteen & forty five, while apoplexy

is more common in males & between the ages of fifteen & seventy, Hysteria is not so sudden & in the intervals there is apparently health, the hysterical laugh, sobbing, & tenderness on one or more of the vertebra, will be sufficient to diagnosticate the disease. Coma from narcotic poisons, as opium, alcohol &c from the discovery of opium or its preparations about the patient, by the odor of the breath, the gradual increase of the symptoms until profound Coma is produced, dilatation of the pupil, & in the last stages the pulse is weak, besides the age & circumstances connected with the case. The asphyxia the pulse is weak or abolished, with lividity of the face, dustriness of the skin. The syncope there is almost entire absence of the pulse, respiration scarcely perceptible, pallor of the countenance.

Concussion of the brain is not difficult of diagnosis when apoplexy is not making its way in the mildest form that there is any difficulty. In concussion however respiration is not so laborious, the pulse not so strong and full.

Prognosis, This is a very ~~fatal~~ serious disease, terminating frequently in death in a few minutes, in several hours or even days, or the patient may recover from the first attack, the second proving fatal. The unfavorable signs are, frequent & intermittent pulse, flapping of the cheeks, stertorous breathing, repeated vomiting, cold extremities, cold & profuse sweat, convulsions difficulty of deglutition, loss of speech &c. The complications alter many times the prognosis, diseases of the heart, kidneys, blood &c. would almost banish all hopes of recovery. If delirium supervenes, it indicates extravasation

upon the membranes, which usually in
inflammation, it is an unfavorable complication.
The Mortality is very great in Erysipelas, especially
in broken down constitutions. In many cases
which recovery takes place, death soon follows
either by a subsequent attack or from a loss
of the vital powers. When simple Erysipelas
occurs it generally terminates favorably, having
however a tendency to a subsequent attack
which will sooner or later prove fatal.
About one third of the patients attacked recover
Treatment. Of them are certain Symptoms
which have been mentioned, preceding
the attack & indicative of its approach, the
case should be carefully studied & watched
daily, & the particular circumstances observed
if possible, in order that appropriate means may
be taken to remove the existing evil, &

prevent its occurrence or to lessen the danger if it subsequently. It would be different to mention the remedies appropriate in the cases, for the circumstances under which they originate are almost always different. Our guide must depend upon the age, habits, constitution of the patient, the predisposing, exciting causes & the seat of the existing disorder. If blood-letting, is needful it should be resorted to without delay, general or local, as the case may demand. Purgatives are almost invariably called for, to assist in correcting the disorder of the digestive or biliary organs, to relieve or prevent the vascular engorgement of the brain. If great depression of the vascular system exist, the reverse treatment will be required. The predisposing & exciting causes should be avoided. Exercise should be taken but never to excess. Diet regulated to suit the case.

Unfortunately however the patient is not always seen at this early stage or if seen the disease still persist inspite of all remedies. In such cases prompt & active treatment is required.

The patient should be carried in a well-ventilated apartment, all ligatures removed from his neck, his head elevated & a thorough examination should be made, in order that proper steps may be taken to remove the existing evil. To accomplish this [illegible] suggested is the [illegible], but while this is [illegible] in many cases it is far from being the universal treatment. There are some physicians however who believe that active practice is good practice, & that blood-letting is the most efficacious of that practice, depend entirely upon the lancet. While others take just the opposite view.

But the more careful observers & the more reliable practitioners, depend not so much on the symptoms, which characterize the disease, as those which infold the treatment. Consequently they bleed not in this disease simply because it is apoplexy nor disregard their judicious treatment. If the patient is found in a state of great vascular excitement, with the pulse strong & full, the countenance flush, veins turgid &c. blood-letting is called for, but should only be carried so far, as to accomplish the objects in view, viz. to check the hemorrhage, reduce congestion & promote absorption of the effused liquid. In some instances both general & local blood-letting may be required & the operation repeated if necessary, but always to a less extent. Some physicians prefers the temporal artery or jugular vein to be open, others from the same, which

is more common & unless the case is a very urgent one, generally preferred.
If however, Nature interposes & accomplishes the work, by a great reduction of the heart's action, which is indicated by a small & feeble pulse, Countenance pallid & sunk & blood-letting would be followed by palsy or death, therefore the lancet should be withheld & Cups or Leeches applied if necessary, or if the depression is great, supporting measures are demanded.
The pulse in a majority of cases serves as a guide, but it can not be depended upon invariably, for the artery may have an abnormal course or there may be organic disease of the heart or other causes sufficient to render it nugatory in some few cases. In such cases the pulse will be feeble, while the countenance remains flush,

the veins turgid & other symptoms, which require the use of the lancet. Not unfrequently the countenance is pallid while the pulse is strong & frequent, in such cases blood-letting may be tried & if the patient bears it well it may be pushed farther, but if he sinks under the treatment it should be stopped immediately & local bleeding resorted to. Purgatives are used by all practitioners & they are generally applicable & beneficial, both as depleting & revulsive agents, - specially the latter. Magnes Sulph. with Infus. Sennae comp. or One of the preparations of Mercury may be used. If the liver is involved Calomel should be employed, followed by Ol. Ricini, Is deglutition is difficult or impossible a few drops of Ol. Tiglii should be applied to the tongue. In the mean time the action of the bowels should be promoted by an enema.

After the bowels have been evacuated, the Abdominal secretions & excretions; especially that of the liver should be excited, small doses of Calomel & Antimony should be administered, avoiding however vomiting, for this is only beneficial, when the Stomach contains narcotic poisons or other hurtful ingesta. If the brain is in a depressed condition, a blister to the head, will prove beneficial, by exciting the sensorium. Oftener perhaps, the application of Cold to the head is required, especially in the first stages. If the disease should not yield under the preceding treatment, the Mercurial course should be at once tried, as the last resort. If this fails, the patient lingers until death supervenes.

But, as it frequently happens, the patient gradually recovers from his perilous condition.

The dark clouds which has enveloped his
Mind in total darkness for a while, begins
to disappear, the bright ray of Conscience
is seen peeping through the dim mist, bright-
er, & brighter does it appear until it shines
in all its splendor & grandeur. Once
more can he appreciate the objects which
excite & engage his mind & create pleasurable
emotions in his own bosom. During this
time all disturbance should be avoided & the
patient kept on low diet, but nutritious, until
his strength is regained, when he will again
be able to enter into the routine of active life.
The patient however, is not in perfect health, he
remains in a peculiar condition, which ren-
ders him liable to another attack. Therefore every
possible means should be taken to prevent its
return. Functional derangement as soon as discovered

should be corrected, with appropriate remedies. All the predisposing, exciting, causes should be sedulously avoided. The diet should be light, including vegetables & milk & farinaceous. Only a small quantity of meat allowed. Some alcoholic drinks should be forbidden, in most cases. Moderate exercise, short of fatigue & taken regularly, is requisite. All physical efforts or great muscular exertions should be avoided. If the patient following a professional life, he should now abandon it, never allow himself to be exposed under any conditions or exposed to extreme heat or cold.

An

Inaugural Dissertation

on

Diphtheritis

Submitted to the examination

of the

Provost, Regents and Faculty

of the

University of Maryland

for the

Degree of Doctor of Medicine

by

G. Byron Lecompte

Maryland.

Of the multitudinous maladies which are incident to the human family, few are of greater interest to the physician than Diphtheritis; being of frequent occurrence, generally of a serious and frequently of a fatal character; requiring great vigilance, skill and judgment on the part of the practitioner.

I have therefore selected it as being a suitable subject for an inaugural Dissertation. The several appellations which the

disease has received are
sufficiently appropriate,
as they express its most
remarkable character; —
the exudation of the plastic
elements of the blood,
and the formation of an
adventitious membrane,
or pellicle upon the
surface of the inflamed
part. In its incipient
stage the disease is
scarcely distinguishable
from ordinary angina,
and in mild cases there
is little or no fever.

There is some preternatural

neal redness, a degree
of soreness, and some
difficulty of deglutition.

In Good constitutions
the fever is often of an
ethenic character; the
ordinary phenomena of
fever manifesting them-
selves in a high degree;
the pulse being full and
strong, the face flushed,
and the inflamed mem-
brane is bright red,
and the patches white and
of a firm consistence.

Such cases are probably
associated with common

angina; the pellicular inflammation being generally attended with fever of an adynamic, or typhoid type.

There is a decided correspondense, between the general symtoms, and the local affection; for when the disease is of a typhoid or malignant type, which is mostly the case when it prevails epidemically; — the membrane is purplish, or lived, the audation yellowish, — ash coloured and dark

from the bloody liquor effused, and often of a soft, butterous consistence. The inflammation is speedily followed by the exudation, and the disease then manifests its characteristic features.

In mild cases the false membrane appears in spots, small and few in number; but in the graver varieties, it is more copious, and more extensively diffused over the fauces. It is natural that the disease should

spread over a continuous surface; and hence its liability to extend to the Larynx and trachea, producing all the symtoms of pseudo-membranous croup, and almost always leading to a fatal termination. It is this tendency to spread and thus to involve the air passages, that gives the disease its formidable character, at least, so far as the respiration is concerned, - for if it were limited exclusively to the fauces

it would not lead to a fatal result, unless the tumefaction should be so great as mechanically to interfere with the due performance of respiration: and death from the apnoea thus produced, might be readily obviated by making a hole in the trachea. But conditions of a more serious character, and less amenable to remedial measures, are more frequently the cause of the unhappy result. The disease may and frequently does extend

upwards into the nasal passages, giving rise to sanious and fetid discharges, and obstructing respiration through the nose.

The disease frequently assumes the malignant or gangrenous form, producing all the phenomena of what the old authors denominated a putrid sore throat".

This result of inflammation, thus tending to putridity, is at once a sign of the low condition of

the vital powers, and a cause of their further depression.

In bad cases after several days, or towards the termination of the disease, diarhoea frequently takes place, and may be attributed to an irritable condition of the gastro-intestinal mucous membrane, caused by the acrid and vitiated secretions from the throat, much of which is unavoidably swallowed.

It would be super-

phrases to enter into a minute detail of the symtoms exhibited by this disease. Between the sthenic and asthenic, or malignant varieties, there are doubtless several intermediate grades, each of which will exhibit a corresponding modification of symtoms.

The causes of diptheria are involved in great obscurity. It cannot be attributed to atmospheric conditions, or vicissitudes, for in the United States

every variety of weather exists, and the climate is extremely variable, and yet the disease is not nearly so prevalent as common sore throat.

The peculiarity of the inflammation must be sought for in some other cause. We are naturally inclined to look to the blood for that cause, as it not only supplies the system with the materials of its support, but furnishes the elements of all morbid products.

If the blood be surcharged with plastic materials

coagulable lymph is likely to be effused upon the surface of the mucous membrane, whether of the throat or other parts. The thinness of the mucous membrane in children, facilitating inoculation, accounts for the more frequent occurrence of diphtheritis in them, than in adults.

When an adynamic state of the system exists, the lymph is liable to become putrid; - and the process of decomposition is promoted, by its exposure to air and

moisture in the throat.
Pseudo-membranous deposits
often take place in chronic
diarhoea, from the effects
of iron, purgatives or
other irritating causes;
and sometimes apparently
without any such
~~from other~~ irritating causes.
Sometimes constriction alone
would seem to be adequate to
the effect. It is reasonable
to suppose that there is
an excess of fibrine in the
blood, or there would not
be so great a liability to
the production of false
membrane.

By nearly all the earlier writers and by some of the more recent, the disease has been attributed to a specific contagion; but the arguments in favour of this opinion are altogether inconclusive: yet it cannot be doubted, that the disease is occasionally communicable, particularly the malignant variety, from a sick to a healthy individual. It would seem that there should be a peculiar susceptibility to the action of this peculiar contagion, or that the contagion itself

is irregular and capricious in its action like that of scarlet fever; for it is well known that of a large number of persons who may be exposed, only a very few will experience an attack of the disease.

It is possible, that when a number of persons are crowded together in the same apartment, where ventilation is imperfect and cleanliness neglected, an effluvium may be generated capable of propagating the disease.

considerable discrepancy of opinion prevails among authors in regard to the pathology of diphtheria.

By some it is denominated a specific inflammation, which means just nothing at all. Broussais in keeping with his peculiar theory, maintains it to be a gastro-enteritis; the affection of the throat being secondary to the gastro-intestinal inflammation; but that view of the subject is refuted by the frequent ~~occurrence~~ occurrence of the disease

without gastro enteric symptoms. According to Andral, the disease consists in acute hyperaemia of the mucous membrane of the fauces, with exudation of the coagulable lymph. The exudation of lymph instead of mere mucus or purulent mucus as usual, is attributed by Williams (Principles of Medicine) to the inflammation affecting the submucous cellular tissue, and being at the same time diffused like erysipelatous inflammation. His doubtful whether there is any precise

state of the diseased part which would peculiarly favour the circulation.

The treatment of Syphilitics will depend upon the aspect of each case.

In the sthenic variety bloodletting, general or local is both may be had recourse to, and the antiphlogistic regimen enforced.

Purgatives are also useful, and may be carried to an extent corresponding with the requirements of each case. The judgment of the practitioner must

determine the extent to which depletion in any manner may be carried; or whether it be admissible at all. The first is like the artillery playing upon the walls of the enemy's Citadel, while the latter may be compared to the miners, undermining its foundations, and preparing for its more effectual overthrow. These are caustic applications to the fauces, and the internal administration of mercury. Of the various local

There are two remedies, the one local, and the other general, on which our chief reliance is to be placed.

remedies which have been recommended, nitrate of silver is probably the most efficacious. Being readily neutralized by the tissues to which it is applied, its action is confined to the surface, while it produces a more healthy action in the part below. It may be most conveniently applied by means of a piece of sponge, secured to the end of a piece of whalebone, or other flexible material. Fifteen or twenty grains to

the crust will be of sufficient strength in many cases; but if the false membrane be copious, dense and strongly adherent, the nitrate in substance, or a saturated solution of the salt, would be preferable. We should confine its application to the diseased parts as far as possible.

While we are thus combating the enemy at his place of strength, we should lose no time in searching him out in his hiding places. Calomel may be given at

first as a purgative, and
afterwards in small doses.
From one to four grains
according to the age of
the patient, and urgency
of the case, combined with
Dovers Powders, or opium
and ipecacuanha may
be given frequently so as
to secure as speedily as
possible the specific
influence upon the system.
The mercury produces a copious
flow of the natural secretions
of the parts, which causes
the false membrane to come
off in flakes. It seems also

to be dissolved and is brought up from the throat like thick mucus. In cases attended with gastro-enteritis, the mercury may be given in smaller doses, more frequently repeated, and combined with minute doses of opium. At the same time ice water or ice may be given, and blisters applied to the epigastrium. If diarhœa should come on, it may be combated by the usual remedies, absorbents, astringents and mucilaginous drinks without interfering with the mercurial treatment. The hydrargyrum cum creta

would be a good substitute
for the Calomel in that case.
When considerable fever exists
diaphoretics would be useful,
and their quality may be adapted,
to the condition of the system and
the state of the stomach. The
malignant or Gangrenous variety,
which apt to predominate when
the disease prevails epidemically
is exceedingly fatal under any mode
of treatment. The remedies for
this form of Diphtheritis, are the
same as those which are best
adapted to the treatment of
malignant scarlet fever, and need
not be repeated, in this essay.

In this as in all other diseases, the treatment should be guided by the character of each case, and the constitutional peculiarities of the patients.

In regard to the employment of tracheotomy in this disease for the relief of the obstructed respiration, the great difficulty seems to be to determine the proper time for its performance. It is usually delayed until all other means have proved unavailing; when it is usually too late. It should not be neglected, and should

always be performed, when the disease persists and continues to grow worse in spite of all our efforts to subdue it, as it holds out the only hope of safety to the patient. It may even be tried in some cases, after the respiration has ceased, and the pulse can no longer be felt at the wrist, as cases are on record in which the operation was successful even at that period.

An

Inaugural Dissertation

on

Digestion

[illegible]

[illegible]

of the

[illegible], Regent, and Faculty of Physic

[illegible]

University of Maryland

for the

Degree of Doctor of Medicine.

by

[illegible]

of

Pennsylvania

Digestion

Digestion is that process by which the food is reduced to a condition suitable for absorption.

It is one of the most important functions of the animal body, and one, which when impaired for any length of time, is necessarily followed by a chain of serious evils, and yet there is no function so much abused or taxed to such an unnatural degree as this function of digestion.

The stomach of man seems to be a common receptacle for almost every article of vegitable or animal origin upon the face of the earth. There is scarcely any known substance in the animal or vegitable kingdom, however filthy or loathsome, but has at

some time found its way into the human stomach, and there made to answer the purposes of nutrition. Vegetables are not possessed of this function as they derive their support from inorganic substances, as water, saline matter, carbonic Acid, and ammonia.

All these substances are furnished to the plant in a state already suitable for absorption, so that a digestive apparatus is unnecessary. Man and the lower animals, not being able to subsist upon inorganic substances alone, must be furnished with such as have been organized, and already formed some part of a living tissue. A large part of their food

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-ing solid or nearly so, makes it necessary for some apparatus [illegible] [illegible]ised in which and by which it may be reduced to such a condition as will allow it to be taken up by the absorbents.

The digestive process is divided by [illegible] [illegible] [illegible] into [illegible] parts.

1st [illegible]ision, 2nd [illegible] and insalivation 3rd Deglutition, 4th Chymification, 5th Chylification 6th Defæcation.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] endeavor to [illegible] [illegible] idea of the quantity and quality of food necessary for the perfect nutrition of man. No [illegible] food is suitable

for the nourishment of the human body
unless it contains [illegible] ts
found in the body.
This seems to be equally so with
regard to the carnivorous, and
probably the herbivorous animals [illegible].
The food of different animals varies
greatly, but for nearly if not entirely
all it consists of organized matter,
vegetable or animal. It has however
been supposed that some of the
lower animals have the power of
assimilating inorganic matter, and
of making that serve the purposes of
nutrition, this is probably not correct.
Food containing both animal and
vegetable matter is alone adapted to the
wants of man. Some animals have the power of living

upon animal food, and others upon vegetable alone. The former are called carnivorous the latter herbivorous animals.

The Carnivorous animals when domesticated may sometimes be brought to eat vegetable food; but the herbivorous never can be brought to eat animal food.

Though a mixed diet seems to be necessary for the perfect nutrition of man in civilized countries, yet in some parts of the world men are known to live entirely upon animal food.

The Esquimaux and the inhabitants of the arctic, regions, where there is no attempt at vegetation, are obliged to live entirely upon animal food, whilst the inhabitants of the torrid region subsist almost entirely upon vegetable food.

Some physiologists (Rousseau) have gone so far as to say that man was originally carnivorous. Others go the opposite extreme and assert that man was originally herbivorous. (Helvetius).

The arguments advanced in favor of man's original herbivorous nature are based principally on the form of his teeth, twenty of which resemble the teeth of the herbivora, [illegible] but twelve resemble those of the carnivora. Without regard however to the arguments deduced from man's physical organization the history of nations [illegible] these [illegible] ments to be entirely incorrect, for by tracing different nations back to a state of infancy we find that man was either carnivorous, herbivorous, or

omnivorous according to the circumstances by which he was surrounded.

Some of the barborous tribes upon the banks of the Red Sea lived entirely upon fish and were called ichthyophagi in consequence. Other tribes were known to live entirely upon vegetables and fruit; and were called hylophagi. However matters little what was the original diet of man, it is our duty to determine what kind of food is best adapted to his wants at the present day; and experience has abundantly proved that a mixed diet is that by which the most perfect health is maintained, and by the use of which the purposes of nutrition seem to be most perfectly fulfilled.

Dr. Prout in his classification of
forms four groups.
1st An aqueous group, comprising
water alone or water holding other nutri-
tious substances in solution;
2nd A saccharine group, which com-
prises substances containing carbon
united with oxygen and hydrogen in
the proportions in which the two latter
unite to form water, the carbon being
in the proportion of about thirty or
fifty per cent. Under this group
are classed sugar, starch, vinegar,
and gums of various kinds.
These substances are found in
the vegetable kingdom.
3rd An oleaginous group to which
belong those substances composed of

carbonic gas and water. In this group are placed the fats, oil, & alcohol. The proportion of carbone here is from sixty to eighty per cent.

4th An Albuminous group in which are placed all those substances that contain Nitrogen in excess. They are fibrin, caseine, vegetable gluten, gelatine, and albumen. The animal kingdom furnishes us with all these substances except the gluten, which is found in large quantities in wheat. In maize is found starch which, being readily converted into sugar, belongs properly to the saccharine group.

In some substances we find combined all the elements necessary for nutrition. Such is the milk upon which we live

entirely for the first year of our lives,
contains water, sugar, casein, and
oily matter. Wheat, which is the
staple article of food throughout almost
the entire civilized world, contains
starch, which belongs to the saccharine
group, and gluten, which belongs to
the albuminous group.

Articles belonging to the albuminous group
furnish nutriment to the animal tissues
of the body as, muscle & nerve

The non-nitrogenous supply those parts of
the body which contain no nitrogen, as the
fat, and also the secretions which contain
a large amount of Carbon, as the bile,
which in the animal tissues furnish
large quantities of Carbon which by its
union with oxygen generates animal

n.a. The supply of Carbon is of great importance in regulating the temperature of the body.

The inhabitants of the arctic regions live almost entirely upon the blubber of whales and the walrus of which they eat enormous quantities, and thus obtain the very large amount of Carbon furnished by this fatty food because of animal heat is generated sufficient to enable them to endure the intense cold of that region.

These non-nitrogenous substances have been termed as Harrison, Calorifacients and the nonnitrogenous, nutritive substances.

Many of the azotized substances may however be Calorifacients also, Carbon being present in them in large quantities. - some of our North American Indians

are said to live almost entirely upon the flesh of the buffalo, taking no non-azotized substances save the ar of those animals.

In selecting for man a form of diet there should be taken to supply a large amount of non-azotized as well as nutritive substances.

Nitrogen being found in large quantities in the body, men have inquired, whence is it derived? - some physiologists assert that it is derived from the food, others that it is received during respiration. Those who advance the latter theory argue that men and animals have been known to live upon vegetable food alone for a great length of time, that carnivorous animals live almost

exclusively upon vegetable food, and that men crossing large deserts frequently have nothing to eat but gum, and that negroes in the West Indies live almost entirely upon the juice of the cane. But it should be recollected that all these articles contain small quantities of nitrogen, and many of these persons drink largely of milk which is highly azotized. It is probable that it is received in both these ways.

The young, in whom the heat ought to be most abundant, live upon milk which contains the elements of calorification in abundance. As they advance in age the quantity of nutrient food is increased whilst the calorifacient is diminished. Reason teaches us, that

in cold countries that kind of food which contains the largest amount of carbon should be used, whilst in warm countries food containing small quantities of is best adapted to the wants of the inhabitants.

No amount of theorizing however is of as much service in selecting a form of diet suitable for man, as his natural instinct and experience. That which man ardently [illegible] rarely does harm if taken in moderation. More has been learned from the simple fact that scurvy has been produced in men confined to a single article of diet, than any amount of reasoning could have taught us.

Magendie [illegible] that dogs fed upon substances belonging exclusively

to the saccharine and aqueous groups died in from thirty two to thirty four days, after having become greatly emaciated, and ulcers having formed in the cornea.

[illegible] again is now the great non-nitrogenized principle, fat, within the body, becomes consumed in order that the animal heat may be maintained. Thus Magendie found upon examining dogs that had died after being fed upon aqueous, and saccharine substances alone, that all the fat had entirely disappeared.

Thinking the death of these animals might possibly have been owing to some peculiarity in the action of sugar, he tried the experiment again with other non azotized substances, and the result was the same.

He fed two dogs upon distilled water, and olive oil alone, and found that they died in about the same length of time, with similar phenomena. He also tried other experiments with gum arabic, and butter, and the result was the same.

He found also that these substances were well digested.

Under a course of diet like this, there is a tendency upon the part of the mucous membrane of the alimentary canal to ulcerate.

Experiments have shown that the amount of food necessary to preserve good health is from twenty five to thirty five ounces per day, and of this from one fifth to one fourth should be animal food.

It is important that we should understand what kind of food is best adapted to individual diseases. It is not enough for us merely to restrict our patients to a small amount of food; but we should confine them to that kind of food which is particularly adapted to their particular cases. Thus in diabetes those articles that contain the least amount of sugar should alone be used.

An albuminous diet is best adapted to diseases of the liver, in consequence of their being a less amount of carbon to be eliminated under the use of this kind of aliment.

Quantity, however is of more importance here than quality.

In diseases where there is a tendency

to the accumulation of fat carbonaceous substances should be avoided, as, when there is more carbon taken into the system than is used in generating animal heat or supplying other tissues, it goes directly to the formation of fat.

Returning then to the function of digestion I shall endeavor to examine seperately the different stages, as already arranged.

The first of them is prehension, which is [illegible] simply the muscular action by which the food is introduced into the mouth. This is accomplished by the hands, lips, anterior [illegible], and tongue. The lips, being [illegible] with nerves from the superior and inferior maxillary divisions of the fifth pair, are endowed with great sensibility. The papillae of

much with which they are endowed are
[illegible] ped, and are supplied by the coronary
arteries with an abundance of blood.
The skin along the margin of the lips is
continuous with the mucous membrane of
the alimentary canal, which is covered
with the same variety of epithelium
as that in the mouth.
The lips undergo some great modifications
in different animals in view of the
part which they play in the function of
prehension. In the ruminants they are
very large and pendulous.
The tongue in man besides other uses
serves the purpose of a piston, by
drawing it far back into the mouth
it creates a vacuum, allowing air to
enter by atmospheric pressure.

It is used for various purposes by differ-
ent animals. With it oxen and cows [illegible]
[illegible] the giraffe [illegible]
the trees, and some animals have a
peculiarly shaped tongue which they
use as an organ for the purposes of
prehension.
The cheeks form the outer wall of the
mouth. They are continuous with
the lips and like them are composed
of skin, muscular tissue, and mucous
membrane. They serve to prevent
the escape of food from the mouth,
and by pressing against serve to keep
it under the teeth during mastication.
The tongue is supposed to be the seat of
taste, and of a very delicate sense of
touch. It assists in keeping the food

between the teeth, and also assist materially in swallowing.

The teeth vary very much in form, and answer many different purposes in different animals.

In birds the hard bill serves the purpose of teeth in appearance; but the function of mastication in them is principally performed by the hard muscular gizzard, with the help of small stones which the animal instinctively swallows.

They serve the purpose of prehension more in those animals that swallow their food entire, as, the fish and serpent. In them they are sharp and curved with points turned backward. There are three kinds of teeth in quadrupeds of the

dog and cat hind, and similar classes.
They are the incisors, canine, and molars.
Of the first there are twelve six in each
jaw. As they are intended for cutting they
have a sharp edge. Of the canine there
is but four one on each side of each
jaw; they are conical, and somewhat
curved, and are used principally by
animals for laying hold of their prey.
The molars are eight in number on each
side, they are considerably larger than the
others, and have broad flat crowns with
a rough [illegible] surface admirably adapted
to the purposes for which they are used,
that of grinding the food.
The incisors are only found in the
lower jaw in ruminating herbivora,
whilst in the horse they are found in

in the upper and lower jaw. They are only used food cutting the grass, and other articles upon which these animals feed. In the horse the canine are only slightly developed, mastication proper being performed entirely by the molars.

In the human subject the teeth are thirty two in number of which there are eight incisors, four canine, eight bicuspids, and twelve molars.

We here have combined the characters peculiar both to the carnivora, and herbivora.

The incisors have a sharp edge running from side to side as in other animals.

The canine, placed immediately behind the former, are not so long, as in the

carnivora, and the crowns are more conical than those of the incisors, and are not so much wedge shaped.

The bicuspids resemble the molars, and are sometimes called false molars.

Their crowns have two conical emminences as their name indicates.

The molars are distinguished by their size, the square shape of their crowns upon which are four or five small emminences, this is a point of distinction between them and the molars of herbivorous animals, which instead of elevations present curvilinear lines.

Mastication in man is as well performed as in the herbivora, and with less labor, because the food used by man has already been softened by cooking.

and is therefore more easily masticated.

Whilst the food is undergoing the process of mastication it is at the same time being mixed with the first of the digestive fluids, i.e. saliva, which in a great measure facilitates this operation by softening the substances to be masticated.

This property with that of rendering deglutition somewhat more easy, was for a long time supposed to be the only properties possessed by it. Later writers have ascribed to it some chemical influence to which I shall presently refer.

This secretion is a compound one, and is composed of four different fluids, each having its own chemical

and physiological properties, and each being derived from a distinct source.

The secretions are three, parotid, which is derived from the parotid glands. These glands empty their secretions into that part of the mouth which is outside of the teeth, through a small duct called after its discoverer Stenon's duct. Physiologists have succeeded in introducing a canula into this duct, and thus obtaining this secretion unmixed with that of the other glands.

It is a clear, watery secretion, without viscidity, and has an alkaline reaction.

Second the submaxillary which differs from the parotid in being decided by

viscid. It may be procured [illegible] a canula into Wharton's duct, which is situated beneath the tip of the tongue.
Third the sublingual, this is more viscid than the submaxillary.
And lastly the secretion from the mucous follicles of the mouth this is of very small amount and much more viscid than either of the others.
The chief point of difference in these secretions is in the organic matter which they contain. That of the parotid resembles albumen somewhat in that it is coagulable at a boiling temperature.
That of the submaxillary gelatinizes upon cooling.
The sublingual, and mucous do

not agglutinize, but are extremely viscid
The saliva then as a whole is a viscid
transparent secretion, which is in
general alkaline, neutral frequently,
and sometimes slightly acid.
Its most obvious use is to mingle
with the food, and thus in mastica
tion render mechanical aid; but
various other uses are attributed to it.
It has been shown by repeated
experiments that it has the power of
converting starch into sugar. It is
obvious however that but a very slight
influence can be exerted in this way
in the ordinary process of digestion, as
the food remains for so very short a
time in the mouth, that but very little
change can be produced in it whilst there,

and experiments have proved that the gastric juice interferes with its sugar making property. Its influence then in this particular seems to be of little or no moment

The experiments of Bernard, Magendie, and others seem to prove that it exerts only a physical influence, they found that the amount of saliva secreted was not in proportion to the chemical properties of the food, but was regulated by its dryness or hardness.

The amount of saliva secreted daily is about three pounds.

Deglutition, or the conveyance of the food from the mouth to the stomach, is performed by the mouth, pharynx, and oesophagus.

After the food has been sufficiently

masticated, it is collected upon the tongue which is then pressed against the roof of the mouth, this pressure beginning at the tip and ending at the base, propels the food into the pharynx which is advanced and dilated to receive it. At the same time the approximation of the posterior pillars of the fauces, and the contraction of the upper constrictor and the palato-pharangeal muscles prevents the food from passing into the nares.

At the base of the tongue presses back the epiglottis which closes the orifice of the larynx, and prevents the food from passing into the air passages. It would probably not pass into the rimula were the epiglottis absent, the sudden spasm excited in the constrictor muscles of the

of this would be sufficient to prevent its doing so.

Having drawn near the oesophagus, it is further impelled on its way by the contraction of the middle and inferior constrictors, and when it gets into the oesophagus it is carried to the stomach by the contraction of its muscular coat.

This act of deglutition is an involuntary one, the contractions being caused by the irritation occasioned by the pressure of the food upon the nerves.

Digestion consists in the reducing the food in the stomach to a soft semi fluid condition, after having undergone this change it is called chyme. The stomach in which this change is effected is an elongated curved pouch

dilatable, and contractile. It has four coats, the peritoneum which covers it externally, the muscular coat, which is continuous with that of the oesophagus, is composed of three sets of fibres, longitudinal, circular, and oblique. The submucous coat which consists of a layer of areolar tissue that connects the mucous and muscular coats, and supports the blood vessels prior to their distribution to the mucous coat.

And lastly the mucous coat, which is smooth, soft, and remarkably thick, more so at its pyloric than cardiac extremity. It is extremely vascular, and possessed of very extensive glandular apparatus.

The entire surface of this membrane is covered with numerous tubules or follicles, toward the cardiac extremity they are short and simply tubular, at the pyloric extremity they are longer, more convoluted and terminate in saccular extremities.

Near the pylorus these follicles are called mucous glands, it being supposed that they secrete the gastric mucous. They are called [illegible] glands in other parts of the stomach where they are [illegible] supposed to secrete the gastric juice. They are lined by the columnar variety of epithelium.

The most important part of the digestive process is conducted in the stomach. As soon as food has been received into the stomach both orifices are tightly closed, so as

to prevent it from passing out during the contraction of the walls of the stomach. This contraction is induced by the irritation set up by the food, and the force [illegible] of the muscles is said to be in direct proportion to the digestibility of the food.
Some physiologists maintained that the change effected in the stomach was due entirely to this contraction, which exerted a mechanical influence upon it that reduced it to a pultaceous consistency. [illegible] this has been [illegible], it has been found that if metalic balls [illegible] filled with animal or vegetable matter, were swallowed that the substances [illegible]

[illegible] them will be perfectly elastic.
[illegible] contractions [illegible] would have had no influence upon it. [illegible] attributed it to putrefaction, but this doctrine, I believe, now receives no support, for it has been abundantly proved, that so far from being a process of putrefaction, partially putrefied matter [illegible] when introduced into the stomach [illegible]

[illegible] Fermentation once had a [illegible] fermentation [illegible] of imperfect digestion. [illegible] therefore quite a common sign of dyspepsia.

The theory of a [illegible] most [illegible] received

[illegible]ysiologists of the present day.
[illegible]
[illegible] juice [illegible]
is secreted by the [illegible] of the [illegible] each,
[illegible] animals
[illegible] low tubes pierced with holes, in
which were placed peices of sponge, after
[illegible] to remain for a [illegible]
time [illegible]
of a string [illegible] them, [illegible]
pressing the sponge enough of this
secretion [illegible] obtained for examina-
tion. [illegible] low [illegible],
transparent, and somewhat volatile.
Those who object to the theory of a chem-
ical solution say, if there was such
a secretion [illegible] the [illegible] ties ascribed
to the [illegible] juice, that it [illegible]

destroy the walls of the stomach with the same readiness as the food contained in it. It is probable that it does act upon the stomach to a certain extent, but that organ being highly vitalized repairs the injury done with such rapidity that no ill effect results.

It has been observed in persons who have been suddenly deprived of life shortly after taking a meal whilst the stomach was secreting the gastric juice largely, that the walls of the stomach were destroyed to a considerable extent, here the absorbative process having ceased the effect was very observable. The injury however would scarcely be as great in living tissues even if there was no repair.

The gastric juice seems to have the same property out of the stomach as in it, but in a less degree.

Physiologists have differed very much as to the nature of this secretion, some affirming that it was acid, others that it was alkaline, others that it was neither, and yet others that it was either acid or alkaline according as the animal was carnivorous or herbivorous, being always acid in the former. Most physiolgists of the present day seem to agree in ascribing to it acid properties. Gastric juice taken from the stomach seems to lose its digestive properties if an alkali is added to it.

Dr Prout supposed that it contained

free muriatic acid, to which it owes its digestive power, resides in part, and in this opinion he is supported by many eminent physiologists. Tiedemann, Dalton, and a number of others contend that the acid to which it owes this property is lactic, and not muriatic. This question may therefore be considered as still unsettled.

Dr Beaumont found upon placing a piece of the mucous membrane of the stomach in water acidulated with either of the before mentioned acids, that a digestive fluid was formed precisely similar to the gastric juice.

Numerous other experiments have since been tried, all tending to prove that a solution having this property is formed with the mucous membrane of the stomach, and with

no other mucous membrane.
Simple acidulated water has no such effect, nor does an infusion of mucous membrane without acid in the latter case rapid putrefaction takes place.
The caseine of milk is speedily coagulated by the gastric juice, and this property seems to be independant of any acid, for it still retains it when neutralized by an alkali.
Dr Beaumont states that the gastric juice is entirely absent during the intervals of digestion, but under the stimulus of recently ingested food the mucous membrane becomes swollen and edened, and this condition is soon followed by a copious secretion of gastric juice.
Dr Dalton found in experimenting on a

dog that he could not excite this secretion by artificial means such as the introduction of glass rods &c. He found upon introducing a piece of tuboon that it was expelled without producing any secretion, but if he introduced pieces of fresh meat it proved fresh... At other times he found that a very small amount could be introduced by introducing a metalic catheter.

This fluid does not begin to be secreted until about five minutes after the introduction of food into the stomach.

Pepsin is the name that has been given to the organic matter found in the gastric juice, this is the most important ingredient.

It may be obtained by macerating a

portion of the mucous membrane of the stomach in distilled water until it becomes somewhat acid, and then adding alcohol by which it is precipitated. It is precipitated also by many of the metallic salts, and by a boiling temperature.

The gastric juice contains acids, this organic matter, the chlorides of sodium, potassium, and ammonium, and the phosphates of lime, magnesia, and iron.

Dr. Beaumont supposed the gastric juice to be a universal solvent of aliment, but this is not the case, as it is found to affect only the albuminous substances, producing no effect upon the starch, and fat except to dissolve their investing membranes.

If fresh meat is placed in the gastric juice

it first acts upon the areolar tissue, isolating the muscular fibres from one another which are more gradually digested, and finally nothing is left but a slight brownish deposit.

If a piece of adipose tissue be substituted for the fibrin, we find that the walls of the fat vesicles, and the areolar tissue with the blood vessels are dissolved whilst the oil is merely set free.

The casein is dissolved in cheese and the oily matter set free.

In bread the gluten is acted upon, but the starchy matter is not.

Vegetable substances are more slowly acted upon than animal the gastric juice, when digested with albuminous substances possess the peculiar property

of interfering with Trommer's test for sugar. When the sulphate of copper is added to a mixture containing gastric juice, holding some albuminous substance in solution, and sugar, nothing peculiar is observed, but when the potash is added the mixture becomes purple instead of blue, as in ordinary circumstances; when it is boiled it becomes first claret colored, then cherry red, and finally yellow; but there is no precipitate of the oxide of copper. We need not however be deceived by this peculiar action, as the changes in color are sufficient to indicate the presence of sugar. Another reagent which possesses the property of preventing the

reaction of starch and iodine. Neither of these properties is possessed by the gastric juice unless it contain albumen.
Besides the secretion of gastric juice the stomach performs another action of considerable importance, which is its peristaltic movement.
The alternate contraction and relaxation of the longitudinal and circular fibres produce this movement. By this action the gastric juice is intimately mingled with the food.
Dr Beaumont who observed this movement through a gastric fistula, says the contraction is of such a nature, that when the food first enters the stomach it is carried into

its great pouch, from there along its greater curvature to the pyloric extremity, and then returned along the lesser curvature to it's cardiac extremity. This continues as long as there is any food in the stomach. Carnivorous animals require from ten to eleven hours for the process of chymification, whilst in man it takes place in from one to five hours according to the kind of food to be digested.

This is probably owing to the fact that the food is well masticated in man than in the lower animals.

The amount of gastric juice secreted daily was estimated by Eidder and Schmidt at fourteen pounds, this

does not seem so incredible when we recollect that secretion and absorption are going on at the same time, thus as soon as that which has been secreted has dissolved its proportion of food, it is immediately reabsorbed and a fresh quantity secreted. A constant circulation of the gastric juice is thus kept up.

Dr. Beaumont in his observations on Alexis St Martin noticed that any undue irritability, any febrile action, or excessive fatigue would diminish and sometimes almost entirely suspend this secretion.

Absorption of that part of the food which is perfectly digested in the stomach, probably takes place here, since water and

different kinds of liquor most probably
takes place there also.
That part of the food which is not digested
or but imperfectly so, by the gastric
juice, after being macerated to some
extent in the stomach is passed on
into the other part of the digestive
canal, that it may likewise be placed
in a condition suitably for absorption
The food then which has not been
digested, having reached the small
intestine is there acted upon by three
different secretions, the bile, pancreatic
juice, and the intestinal juice proper.
The intestines are divided into the
large and small, these are subdivided,
the small into the duodenum, jejunum
and ileum. The large into the cæcum

colon, and rectum. The colon is again subdivided into the ascending, descending, transverse, and sigmoid flexure.

There is a very distinct natural line of demarcation between the large and small intestines.

The large intestine commences with a dilated blind pouch, and are wider here than in any other part of their course. Connected to this pouch is a small worm like appendage, called the appendix vermiformis.

There is also a valve at the point of junction between the large and small intestines called the ileo-cæcal valve.

The coats of the intestine are the same as those of the stomach.

The albuminous matter alone being

digested in the stomach, we have still the saccharine and oleaginous to dispose of. Starchy matter is certainly not digested in the stomach; but immediately after it enters the duodenum it is acted upon by the fluids there found and converted into sugar the intestinal fluids exert this influence out of the body, as well as in it at the temperature of 100° F. Upon killing an animal shortly after a meal of meat and starch; starch, but no sugar is found in the stomach, whilst in the small intestine very little starch but an abundance of sugar is found Some observers have failed to detect sugar in the intestine. Dalton attributes

trial to their having delayed their examination too long, as it is very rapidly absorbed.

This change is affected by the pancreatic juice principally, though the intestinal juice proper exerts some influence. The bile exerts no influence in this process.

The intestinal juice is secreted by two sets of glands, those of Lieberkühn, and those of Brunner. The glands of Lieberkühn are found throughout the intestines. They are simple straight tubules lined with columnar epithelium, occupying the entire thickness of the mucous membrane.

Brunner's glands are only found in

the upper part of the duodenum.
The consist of a cluster of rounded follicles having a common excretory duct. They consist of a delicate membranous wall, lined by glandular epithelium.
These follicles uniting to form a cluster are connected by areolar tissue
The secretion from these glands is not so very abundant as we might be led to suppose from their very great number It is colorless, viscid, and has an alkaline reaction. We have seen that the nitrogenous matter contained in our food was only set free in the stomach; but immediately after it enters the duodenum, and passes the orifice of the pancreatic and biliary ducts, it becomes converted into an opaque

emulsion which is capable of being absorbed.

During digestion of fat this emulsion can always be found adhering to the valvular conniventes, and the surface of the villi. This emulsion is termed chyle and the process by which it is formed chylification.

Bernard found the pancreatic fluid to be the active agent in the digestion of fats.

The daily quantity of pancreatic juice secreted is about one third of a pound. It is a clear fluid, somewhat viscid, colorless, and has an alkaline reaction. Its organic matter, called pancreatine, is in a larger proportional quantity than the organic matter of

any of the other digestive fluids. It contains besides this organic matter, water in large quantities, chloride of sodium, free soda, phosphate and sulphate of soda, hydrosulphate of potash, and combinations of lime, magnesia, and oxide of iron.

Oil when emulsified by the pancreatic juice does not undergo any chemical change but is only suspended in a state of minute subdivision by the pancreatine.

Several different theories have been advanced with regard to the use of this substance of them seem to be very satisfactory. It is supposed that after being emptied into the intestines it was again absorbed and some of the large amount of carbon it contained, by uniting

with the oxygen introduced during respiration it generated animal heat, Others thought it was simply an excrement that was emptied into the intestines and carried off with the faeces.

Sir Benjamin Brodie's idea was that it precipitated the whole from the chyme and assisted in its formation.

According to Drs. [illegible] it is decomposed after entering the intestines and its coloring matter is carried off with the faeces, and the remaining portion reabsorbed. It also stimulates the intestines in a measure.

Defaecation the last stage of the digestive process, consists in the expression from the alimentary canal of that part of the food which has not been absorbed.

The effete matter is propelled along the alimentary canal by a kind of vermicular motion until it reaches the rectum, here it is stopped by the contraction of the sphincter ani. The expulsion from the rectum is effected by the contraction of its muscular fibres, assisted by the abdominal muscles. This act is favored by moderate distention; but if this distention should be too great the contractility of the rectum is diminished.

The average daily quantity of fæces by a man in health is about five or six ounces. Vegetable food yields a greater amount of fæces than animal.

The odor of the faecal matter is supposed by messrs Todd & Bowman to depend upon some odoriferous principle secreted by

[illegible] glands. [illegible] is
increased in diseases in which these
glands are involved seems to add [illegible]
to the [illegible] of [illegible].

An
Inaugural Dissertation
On Blood letting
Submitted to the examination
of the
Provost Regents and Faculty of Physic
of the
University of Maryland
For the
Degree of Doctor of Medicine
by Edwin E. Kellam

Practitioners of medicine are still disposed though not so much as formerly, to empiricism and to routine in the administration of drugs and it may be truly said that practice is regulated in a measure by fashion. Bloodletting a remedy powerful for good or for evil is least of all exempt from this domination of fashion. There was a time when the learned secrets, the arcana of the ars medendi, were not reduced so much to a science and the experience in facts had more weight than theoretical deductions and the different parts of the body from which blood was to be drawn.

were rarely made and prescribed with the most scrupulous exactness and authoritative decision from which there was no appeal Before the discovery of the Circulation, so it is written, the Physicians assigned a particular part and an appropriate vein from which blood was to be drawn In every disease which flesh was heir to and in which bleeding was thought to be indicated; Thus peculiar efficacy was attributed to bleeding in a vein between the thumb and index finger when the eyes were diseased and the vein between the

little and ring finger were selected when the spleen was supposed to be diseased. The saphena vein opened in cases of suppressed menses and a small vein behind the ear for the cure of barrenness. Such superstitious and capricious practice as this could not have been long observed but as knowledge advanced and new theories were conceived, practice assumed a corresponding enlightened change and the benignant rays of science dispelled the darkness of superstition and ignorance. After the circulation was discovered these rules were disregarded and such

part have been chosen as suited the convenience of the operator or notion of the patient. Although not wishing to adopt the superstitious usages of the ancients nor to adopt any practice solely grounded upon reason I am inclined to question whether these rules are not too much neglected or ignored in this our day of enlightenment and advancement in science. The situation or part in which blood letting is performed influences in some measure its effects upon the system. There can be no doubt that the effect of blood letting if pushed to any reasonable extent is generally

and universally felt throughout the system. The blood by its nutritious and nutrient qualities supports every function of the body and an abstraction of this support which the blood in its normal Condition, supplies will produce a corresponding lowering of the functions; hence depletion must be a universal sedative unless there is a greater demand upon the functions than the blood in its normal unimpaired quality is capable of sustaining then it would act as an excitant. The relation and harmony existing between

from all parts of the body and
nervous system is disturbed when
ever the organs in the exercise
of their functions demand a gre
ater supply of blood than can
be afforded. This deficiency of
blood being felt and its effect
upon the organs and tissues of the
body transmitted to the nervous
centres excites them to increased
action and irregular performa-
nce. and these centres transmit
this excitation to their distal
extremities by which the heart
is stimulated to make up for
the impairment of the quality
of the blood by its more frequent

supply. But if the performance
of the functions is in accordance
with the demanded quality of the
blood this secondary excitation
does not supervene. If quietude
and perfect repose of body and
mind is observed, the amount
of food diminished and the passions
unexcited and the nervous system allowed
time to accomodate itself to the new
condition of System and to the state
of the blood (blood tells) is truly
sedative in its effect. The secondary
excitation is induced by the sudden
withdrawal of blood when the
nervous system has not time or ca-
pacity to accommodate or to run

dergo the change necessary to adapt itself to this sudden diminution of its stimulus; or it may be induced by the too frequent use of the lancet by which the blood is impoverished and unfitted and does not afford the necessary nutriment to the tissues; consequently the heart having the additional task of sending more blood to the different parts thereby to supply in quantity what it lacks in quality owing to excessive action the coats hypertrophied or its muscular tissue being but poorly nourished becomes dilated. The red corpuscles are the most highly developed ones

-stituents of the blood and containing more oxygen are more stimulating to the tissues. Since by bleeding, the red corpuscles flow out more rapidly than the other portions of the blood, the vessels are relieved of much of this constituent portion of the fluid and the absorption of water and other less essential fluids is promoted. That absorption is promoted by venesection is the opinion of the profession generally. Dr Zimmerman in bleeding dogs found that the last drawn portion contained 13 or 14 parts more of water than the blood first drawn.

and Polli noticed a corresponding diminution in specific gravity of the human blood during bleeding and suggested the probable explanation of the fact that during bleeding the blood vessels absorb very quickly a part of the serous fluid with which all the tissues are moistened. But it may be said that that portion of the blood which has the greatest specific gravity, red corpuscles, flowing out more abundantly than the watery portion may account for the relative increase of the water in the

last drawn portion and also for the corresponding diminution of the blood noticed by Polli. But if the deficiency occasioned by venesection is not supplied by absorption what is there to prevent emptiness of the circulation? and how is the equable pressure which the blood every where exerts maintained and the systemic actions supported? Why is it that patients experience a sensation of thirst after excessive hemorrhage if it is not because the water in the primae viae and the serous fluid of the tissues are absorbed into the blood? A strong solution of Salts that is not sufficiently dissolved or any other

medicine that is physically unfit to pass through the coats of the blood-vessels will not be absorbed because capillary attraction cannot overcome physical impossibilities.

If the emunctories are incapable of eliminating the effete and foreign matter in the blood and the excretions consequently diminished as in fever then it seems reasonable that an artificial opening would serve as an outlet to these deleterious substances and if there is an entire failure of the excretory organs and absorption continue a condition of Plethora is superinduced but it is thought that plethora arrests absorption and that bloodletting

by diminishing plethora promotes it. Thus medicines which before venesection had produced no effect at all soon after V S have operated efficiently. Whether the materies Morbi is eliminated by V S, or by the action of cell growth and a peculiar vital chemistry or by both I will not assume the province of determining even in my own mind though inclined to follow the "new lights" of medicine; but it is evident that as the nutritive materials cannot be absorbed by the blood vessels and lacteals and elaborated into healthy blood as rapidly as V S can impair its quality the effect of repeated bloodletting is to low-

er and depress the function and to in-
-terrupt the vital processes carried on
by the healthy blood by which the
Materies Morbi is eliminated, as
in small pox, and thus his medica
Vis Naturae enabled to oppose
more successfully the tendency to
decay. Hence when all the strength
-th and energy of the system is
required to battle against the de-
pressing effect of disease reduction
in the initiatory or subsequent
stage V S is contra-indicated
but moderate topical bleeding is
useful to remove venous congestion
and for its counter irritant, revul-
sive and derivative effect, thus

in Pneumonia the 1st stage of pulmonary congestion is signally relieved by depleting and the diminished amount of blood is more in accordance with the capacity of the lungs for aeration. Blood letting also acts beneficially by relieving the congestion of the kidneys and the tension of the cutaneous exhalants so that they can perform their office and eliminate the materies morbi and the products of disintegration and decay. But when the vessels of an inflamed part have become impacted with congested blood and in the stage of exudation bleeding can do no good because the circulation in

the part is stopped and the circulation is outside the blood vessels but it will do harm by interrupting the vital processes by which the resolution of the inflamation and the elimination of the products are accomplished and also by depressing the powers of life thus threatening the great barrier to the onward march of disease.

The derivative, revulsive and counter irritant effects of blood letting are of more importance than its mere evacuant effect and these effects are remedial according to the appropriateness of the part selected for the operation. By the application of

The ligature around the limb which is a part of the obstruction, a partial stasis of blood is produced and a dilated relaxation of the flow in the superficial veins below the blood unable to pass beyond the obstruction the ligature offers accumulates and the veins of the part contain a greater quantity of blood than before. This accumulation continuing the engorgement extends to capillaries and at the capillaries offers a resistance to the action of the arterial trunk itself; the veins being unable to convey the blood onwards as fast as the artery supplies it. The vena Cava is deprived of that portion of the blood

which is retained in the veins, the blood flows more slowly, the right chambers of the heart not being filled so rapidly as before. The contractions and dilations are not so frequent and the general circulation is retarded and the other parts of system is deprived of that portion which is accumulated in the part ligated constituting re-pletion. The vein being opened is relieved of its turgidity but the other veins are not because the obstruction to the circulation is still there, the ligature, and the supply must come from other parts to take the place of that which is poured out through the opening in the vein. Derivation

then, from other parts and the accumulation of blood in the part operated upon being the effect of V S the selection of the part from which blood is to be taken is a matter of some importance. Upon the principle of derivation we can account for the good effect of hot pediluvia in Colds of the head and for the relief of Cerebral disorders afforded by hemorrhoids; so upon the same principle we would not select for bleeding, that part which is supplied by the same arterial trunk that the locality of the disease is; for example in inflamation of the brain bleeding at the Anus would effect more good

than bleeding in the head.

If these observations on blood-letting are not correct, since the consideration of knowing that it had not the sense to originate them. These ideas were elaborated by the brain of experienced medical men, the greater portion of them at least.

A

Clinical Report of Cases

Submitted to the Examination

of the

Provost Regents and Faculty of Physic

of the

University of Maryland

for

The Degree of Doctor of Medicine

By

Theodore W Glocker

of

Maryland

Six Cases of Scurvy

On entering the Baltimore Infirmary on March 6th 1850. I found in the negro ward, six cases, who presented well marked symptoms of scurvy.

Enquiring into the previous history of the patients, I learned they had been employed the preceding six months, on a guano island in the caribbean sea; where they had not only been exposed to the deprivation of all kinds of vegetable food, (which is acknowledged to be the primary cause of scurvy); but, in addition there was superadded, exposure to inclemencies of the six kinds of weather and the inhalation of noxious vapors of guano.

They were compelled to labor hard and unceasingly; and were denied the pleasure of even a comfortable bed, miserable shanties

or sheds formed their only habitation,
and guano bags their cots.
They entered the Batto Infirmary, much
presenting the following well marked
and characteristic symptoms, viz; Spongy
hypertrophied and bleeding gums, bleeding
from the nostrils, great anemia, the
extremities rigid and stiff, this to such
an extent in two of them as to render them
perfectly incapable of bending their
legs, the mucus membrane of their
mouths presented a fungous or wet like
appearance which bled on the slightest
irritation, and their breaths had a
well marked fetor.
When they first entered they were placed
upon the use of Copper Vitriol and vegetables.
On monday 5th They were somewhat improved,
the use of the vitriol was suspended and
Tinc Ferri Muriat XX gtt, [illegible] taken together

with two Lemons for each during the course of a day.

March 5th The patients were all improving, the gums had less tendency to bleed, the extremities less rigid and the strength improved.

Dr Frick wished now to ascertain the value of different modes of treatment placed each one on the following articles viz;

No 1 Vine Ferri Murias & Cabbages
No 2 " " " " Potatoes
No 3 " " " " Onions
No 4 " " " " Potas Chlorat grs V
No 5 " " " " " Bicarb grs VII
No 6 " " " " Sip Lemons

March 8th All very much improved, nos 5 and 6 most,

March 9th Nos 2 and 6 being much troubled with cough and copious expectoration

were given; Morphiae Sulphas gr. [illegible] every four hours, which speedily [illegible].

March 12th Nos 4 and 5 not receiving as much benefit from the use of preparations of potash, as no 6 from the lemons, it was decided to place them also upon lemons.

March 20th All six cases improving rapidly, but still suffering greatly with pain and stiffness of joints; Nos 4 and 5 improving much more rapidly since they have been using lemons,

April 1st All the cases had nearly recovered except some stiffness of the joints, gums entirely healed.

April 11th Perfectly recovered.

Case of Erysipelas.

James Mulligan, aged 37, by occupation a Laborer, admitted into the Infirmary May 1st 1860, for necrosis of the tarsal bone of the left foot, in consequence of an injury.

On saturday morning, May 7th, about 4 o'clock, he was attacked by a violent chill, pain in the head and back, and in the calves of the leg extending up the whole limb.

There was also great lassitude and dejection of spirits, with pain in the epigastrium, white coated tongue, quick hard pulse, high fever, violent and incessant nausea and vomiting.

He also complained of pain and endargement of the lymphatic glands in the groin.

Dr Fernandes mentioned that this is

one of the earliest symptoms of surgical erysipelas often enables you to diagnose the disease long before the skin has become affected.

On the second day after the chill, a circle of inflammatory redness was observed proceeding from the point of injured bone, this gradually extended, the swelling increased, the redness became more vivid, though marked by a distinct line of demarcation, the pain became of a burning or tingling character, increased on pressure, the redness disappeared on pressure, but soon returned.

May 10th. The patient, to-day was attacked with profuse epistaxis; his bowels were in a constipated state.

Velpeau teaches that erysipelas usually terminates by some critical

discharge from a mucus membrane, as for example, a diarrhea hemorrhage from the bowels, a diuresis, or as in this case epistaxis.

He was treated according to the plan usually pursued by Velpeau;

He advises that an emetic should be first administered, this was deemed unnecessary in this case, on account of the frequent vomitings which had already occurred.

He was then ordered the following solution:

Rx, Pulv Sulphas Ferri . . ℥j
Aqua ℥i

This was applied externally to the leg by means of cloths rung out of the solution;

He was also given internally;

Rx. Tinc. Ferri Chloridi gtt xx
S. Three times a day

low diet was strictly enjoined throughout the attack; and constipation was relieved by strong purgatives of a saline character. May 12th. The patient to day was much improved; the hair moated the swelling subsided, and the cuticle had begun to desquamate. This continued for three or four days when the patient might be considered as fully recovered.

Case of Strangulated Oblique Inguinal Hernia.

Samuel Harrison, aged 30, by occupation a farm hand; admitted into the Infirmary June 5th. 1860.

He states, that he had been subject to hernia more than a year; but it had never given him any trouble; and he could always reduce it until the present attack.

On June 2d, four days previous to admission, he was seized suddenly with violent pain in the abdomen resembling colic; the hernia also descended and it was found impossible to return it,

He was rendered incapable of walking, and when carried to the house, violent vomiting with obstinate constipation ensued.

This condition of affairs continued until the 6th instant, when he was admitted into the Infirmary. He presented the following symptoms: the countenance pinched, and expressive of great anxiety; the vomiting still continues, the constipation obstinate, much pain and tenderness over the belly, high fever, pulse 106, full and strong, strength still good, but loss of appetite, and the tongue dry and coated.

He was carried to the table, when Mr Smith proceeded to operate in the usual mode.

There was one circumstance which greatly complicated the operation viz: a thick and tough cicatrix had formed over the seat of hernia on account of a burn received previously.

The sack however being reduced and divided, and the gut was found in a gangrenous condition, the external coat having already sluffed.
The strangulation was relieved but it was deemed unsafe to return the gut into the cavity of the abdomen, it was therefore left at the margin of the external opening, and the parts were fomented by warm chamomile tea.
No operation from the bowels having taken place injections were administered but without effect.
June 7th Patient not relieved, no passage from the bowels, pulse 120 full and strong, he was restless and could obtain no sleep, pain was increased, legs drawn up to prevent pressure and relax the muscles, great thirst and feels worse after drinking, vomiting still continues.

June 8th Vomiting still continues, pulse very
114, no passage and evidently sinking;
at 2 o'clock collapse came on and stercoraceous
vomiting took place,
Notwithstanding a large amount of
stimulants were administered, no reaction
followed, and death occurred at 10 o'clock P.M.
An autopsy was held 12 hours after death,
on opening the belly extensive peritonitis
was found, firm adhesions had taken
place between the gut and peritoneum.
The stricture was relieved, as the finger
could be readily passed into the cavity
of the belly, but the gut was much
gangrenous and it was expected it
would have sloughed before death.

Case of Double Hemiplegia

Jacob Forwood, aged 65. admitted aug 13th 1860.

He stated that eighteen months previously, without any sensations to indicate disease, either pain in the head, numbness or any other kind of bad feelings, he fell suddenly from his chair, totally unconscious. When consciousness returned, he found his left side perfectly paralysed, and the muscles on the same side gradually assumed a rigid state.

On entering the infirmary. Aug 15th 11, it was found almost impossible to extend his biceps muscle, this rigidity did not become so apparent until extension was attempted.

The left pupil was contracted and smaller than the right, the mouth was drawn to the right side, the

tongue was protruded with difficult,
and deviated to the left, the left
thumb is drawn into the palm,
the heat of the surface is greatest
on the diseased side, and the
muscles of the whole body is affected
with violent spasmodic twitchings.
On tickling the sole of the foot on
the diseased side, reflex action
was well marked, the leg jerked
up suddenly; Galvanism also affected
the diseased side more than the
other, throwing it into violent spasm.
When he was admitted there seemed
to be some slight symptoms affecting
the right side, these gradually increased
until they became almost as rigid as
the left side.

He lost the power of speech, his voice
not being heard above a whisper; and his

bladder became affected necessitating the use of the catheter twice a day. Large bed sores formed over the posterior surface of the sacrum; and also excoriations over other portions of his body.

Treatment, Aug 17th. He was placed upon the use of Potas, Iodid. . . grs v

S. Three times a day.

Also. Compound Cathartic pills were occasionally administered to overcome the torpor of the bowels.

Sep 5th. A seton was placed in the back of his neck, and a poultice applied to promote the discharge.

Sep 11th. The Iodide of Potassium was discontinued to day, when he was placed upon the following;

Mass Hydrarg gr xvi
Cretae Prep
Saccharum āā ʒss.

M. Ft Chart vi S. One every second hour,

His symptoms gradually increased in severity, and on the 15th of Sept. one month after admittance, he died. An autopsy was held 24 hours after death, when the brain was found more solid and firmer than natural. There was a large effusion under the pia mater, amounting to over an ounce, also an effusion into the Sub-arachnoid Space.

On incising into the right hemisphere a cavity about as large as a walnut, lined by a distinct membrane, and containing about one drachm of serous fluid was found.

The brain around the cavity was more solid and indurated than in other portions.

At the base of the posterior lobe another small cavity was found with

softened walls, and lined with thin layers of blood; at the base this cavity was firm and tough like a cicatrix, and contained hard solid and minute granules imbedded in it.

On incising the left side about two ounces of sero-sanguineous fluid gushed out, and a cavity about an inch in diameter was found; it had smooth walls but no so distinct a lining membrane as that of the opposite side, it also lay nearer the surface.

The fluid from the cyst on standing separated into two portions, the bottom fluid had the appearance of cream, the top was serous.

Under the microscope the fluid showed red globules and large black and granular corpuscles resembling degenerate cancer cells.

These cysts were supposed to be due to

red inflammatory softening; giving
rise to apoplectic clots which had
softened and healed; and not due
to atropic softening or fatty degeneration
of arteries, as no evidences of either
could be discovered.

Case of Dysentery

Susan Clark, aged 18. native of Baltimore occupation house-maid, admitted Aug 27th 1860. She states that she had been complaining a little a few days before, but was first taken on the 22d with nausea and vomiting; afterwards with diarrhea accompanied with pain and tenesmus whenever she went to stool; she averaged twelve operations a day before she came in.

She is now very weak and prostrate, with feeble voice but mind perfectly clear; her operations are slimy and thin but have no blood.

Dr Chew ordered the following:

Rx. Mass Hydrarg gr xii

Pulv G. Opii gr ijs

M. ft. pill. vi S. One every 3 hours

Also Rx. Plumbi Acetas gr v

Tr Opii gtt xx

Starch water ℥i

S. Use as an injection every 2nd, 3d, or 4th hour according to the symptoms.

Evening 6 o'clock, Had six operations during the day, gave three injections as ordered and increased Plumbi Acetas to x grains.

Aug 28th Slept tolerably well after 1 o'clock, pulse better, and more strength; had 6 or 7 operations during the night, and had taken 10 grs Acetas Plumbi that morning.

Evening 10 o'clock, Had 6 operations during the morning, pulse very weak, injections still continued.

Night 11 o'clock, Has had 6 operations in the evening and 3 to night. Her pulse is fuller, voice stronger, and she says she feels better, Same.

℞ Plumbi Acetas grs iij

Pulv G. Opii grij

Ft pil x. to be taken at once

Aug 29th Had 3 more operations last night; this morning she looks better, there is not the same circumscribed redness of the face nor so much stupor,- Still continuing the injections.

Evening 3 o'clock, Has had 6 operations this morning, good deal of pain and straining; her pulse is weaker than it She is looking better.

Aug 30th Slept well last night, and is a great deal better this morning, eyes clearer voice and pulse stronger and has not so much pain or tenesmus in going to stool.

Evening 2 o'clock, Gave one injection in morning, has had 4 operations on bowels, and is complaining of pain through her abdomen and limbs- pulse is weaker and face greatly flushed, with redness more circumscribed. Tongue dry and coated with flakes of white fur.

6 o'clock. Has had 5 operations. no pain on pressure.

Aug 31st This morning is much better again, not so much pain, face less flushed, tongue less coated.

Dr Chew ordered the pills to be given 3 times daily instead of every three hours and the injections to be continued.

Evening 2 oclock. Face again flushed with circumscribed redness. Pulse full and regular 7 oclock, Better than she was at 2 oclock, face less flushed, had two operations in the morning one this evening.

Sept 1st Is a great deal better than yesterday, two operations last night without much straining, has a brighter look and feels stronger, tongue less coated and begins to clean from tip and edges.

Evening 6 oclock. Had 5 operations during the day, fluid and slimy without blood and very little pain or straining, and is certainly improving.

Sept 2d Slept very well, had two operations during night still fluid but with very little pain, she feels better and is gradually regaining strength and appetite, gave yesterday only two injections.

Sept 3d Still rapidly improving, had one operation

yesterday and one last night, her tongue is clearing and natural color is returning to her face, she feels better and stronger. her pills were ordered to be stopped.

Evening 6 o'clock, Has had but one operation fluid and slimy, this was early in the morning.

Gave her; Rx Syr Rhei Aromat. ℥j

Ol. Ricini ℥j

M. Ft. solution S. Tablespoonful every hour until fecal evacuations occur.

Sept 4th Gave in evening three tablespoonsful of mixture, alternating with twenty-five drops of laudanum. She had 5 operation during the night, is better this morning and has no pain nor straining.

Sept 5th Had no operation yesterday but one last night consistent and more natural in color.

Gave her Rx Pulv Tannin grs iij

" Opii grj

M. Ft. pill S. One three times daily

Sept 6th Had one operation yesterday morning,

none last night, the one in the morning was perfectly natural; this morning she says she is about the same, tongue is nearly clear.

Sept 7th Had one scanty operation last night, feels weak but otherwise well.

Sept 8th Bowels are now perfectly regular, operations, natural and without tenesmus. She is now sitting up, feeling perfectly well but of course still weak.

Sept 11th Went out to-day entirely recovered, her general health is good and bowels perfectly regular.

Wound of Knee Joint

Kinson (colored) aged 25, admitted Oct 22d 1860.

He stated that eight days before in a scuffle with a boy, he was stabbed in the knee with a small pen-knife.

He suffered some pain but still continued to work for several hours after receiving the injury.

When the pain became so great he was obliged to confine himself to the house; the knee also commenced to swell.

On admission eight days after the accident, the knee presents signs of intense inflammation; the joint was very much swollen tender and painful especially on the slightest motion.

There was a large amount of effusion into the joint, entirely obliterating the depressions on each side of the patella, and the skin presented a shining appearance.

The wound which is situated on the outer side of the joint discharged a thin sero-purulent matter, very copious in ammount. His constitution sympathised with the local trouble; he has fever increased frequency of pulse, restlessness and want of sleep, tongue furred and skin dry.

Fluctuation was now very evident in the joint and Dr. Smith freely incised it, giving exit to a large amount of sanious pus,

Owing to a small artery being severed, and being unable to secure it, a copious hemorrhage took place before the bleeding was stanched, which was effected by means of the compress and bandages. .....

The leg was placed in the anterior splint and anodyne poultices applied with some relief to pain; but diffuse inflammation of cellular tissue set in, the discharge was immense amounting to about three pints in the twenty-four hours; and evidences of hectic fever supervened, loss of strenght, exacerbation of fever at night with some sweating.

The matter pointed upon the opposite side of the joint and between the hamstrings, notwithstanding repellant bandages were applied; and incisions

were compelled to be again resorted to.
Notwithstanding all endeavors to
prevent the matters still burrowed
and the whole cellular tissue appeared
to be destroyed, large masses of it
being discharged from the wounds.
Nov 13th The pulse is now small
and compressible, the suppuration
still continues and is more fetid,
the health is failing, signs of hectic
increased and it was determined to amputate.
Nov 15th To day, Dr Smith amputated his
leg, removing it about five or six
inches above the knee joint by
the circular method of operating.
The joint was found in a perfectly
disorganized condition, the cartilages
ulcerated, the ends of the bones
necrosed, the periosteum thickened
and large abscesses proceeding from

the joint; all appearances inviting the imperative necessity of the operation.

Everything continued favorable until Saturday night, Nov 17th when he was found lying in a pool of blood excessively prostrated and presenting all symptoms of profuse hemorrhage. pulse scarcely perceptible, countenance anxious, restless, calling constantly for cold drinks, breathing spasmodic.

The tourniquet was immediately applied, brandy and Carbonate of Ammonia was administered until reaction took place; no bleeding arteries could be found but the flow gradually ceased from the formation of an external coagulum.

He was carefully watched the whole time, the tourniquet was kept at hand in case the bleeding recurred; but everything proceeded on safely until monday night

when another hemorrhage occurred in which he lost about a pint of blood; a small artery was ligatured and the bleeding ceased. On the following day about 8 o'clock, all the ligatures came away in a mass of slough and the blood gushed out profusely before the tourniquet could be applied. He became exceedingly prostrated and comatose, and in about an hour death ensued notwithstanding every endeavor was made to excite reaction.

On examining the arteries after death there was found in them a small clot soft and easily separable, the coats of the arteries themselves were softened and eroded for a considerable extent,

An
Inaugural Dissertation
on
Typhoid Fever.
Submitted to the examination
of the
Provost, Regents, and Faculty of Physic
of the
University of Maryland
For the degree
of
Doctor of Medicine
by
Thomas G. Mackenzie Jr.
of
Baltimore, Md.

Preface

Ever since the name "Typhoid" was applied by Louis to designate the disease concerning which I propose to write; and, which from long established usage, still retains it, there have been numerous disputes and discussions among professional gentlemen as to whether the name thus applied was sufficiently significant of the true nature & symptoms attendant upon the disease in question, and many have been the attempts to do away with the old & establish a new & more Comprehensive name. This, as Experience & a reference to late medical works, attest, was no easy task, - to lay aside a name, which, for so long a period, had been accepted by the profession as a whole; and despite their efforts, it still retains the former name - not that better names have not been proposed, but simply because (I am inclined to think)

the nature & true pathology of the disease being sufficiently clear & obvious, there could result no benefit in devising new appellations, which would only more likely tend to confound & mystify the profession, especially the former members of it. A multiplicity of names can only be productive of confusion & disagreement, and bitter controversies arise from a mere difference of opinion. We satisfactorily comprehend the true nature of a disease, not by the name under which it goes, but by the diagnostic symptoms which characterize it, & nice discriminations & deductions. The same reasons which are urged against the name given by Louis to designate this insidious disease, Pouls, with Equal propriety, be arrayed against many other words in Medical Nomenclature — hence the folly of continued discussion & contention about matters which have no practical bearing upon the malady itself.

Therefore, we should strive to acquaint our-
-selves with Symptoms, Course, Pathology &c,
of disease, and not waste valuable time and
labor with long & unconclusive arguments to
prove the fallacy of names. Our Nomenclature
is defective, it is true; but much precious
time & mental labor have been spent upon it
in vain. which if turned rather to the Eluci
-dation of pathological lesions & morbid
phenomena, would, in all probability, have
been followed by many good results. adding
new truths to those already gained. shedding
new light on others yet impenetrable to the
medical Eye; & redounding with much
honor to themselves & the Cause they advocate.
I fear I have already taken up too much
space in reference to these matters, which seem
of little moment; but which, I sincerely believe,
have retarded, rather than added, motive Power
to our medical advancement. inasmuch as the
time spent thus in an idle & unprofitable way,
might have been filled up in no small degree

had it been otherwise directed -

Typhoid Fever

The name Typhoid was applied to this disease from the fact of its low & asthenic nature - also of the Excessive debility which Characterizes it, & the decided tendency which it Exhibits to Stupor (τυφος).

Symptoms, Course &c. The disease is very insidious in its approach, and it is difficult often to state the Exact time of its Commencement - the patient generally tells you that he has'nt felt very well for a day or so past, & does'nt Consider himself absolutely sick. After a languid, dont-Care sort of feeling has lasted for some time, he Experiences occasionally slight rigors, Pains in the back & lower Extremities, Soreness of limbs - and a symptom which is Rarely Ever absent, "nervous headache" - particularly if he be Constitutionally prone to that affection. The debility & languor at last become so great that he feels Compelled to betake himself to bed - Thoug- fre-

quently with this Exception, he feels Comparatively well. Febrile Symptoms then Ensue the Skin becomes heated, face flushed, & pulse accelerated- his appetite forsakes him; and these Symptoms are occasionally remittent in Character, particularly if the district be a Malarious one. As the disease advances, the above mentioned Symptoms become aggravated, and all the Characteristic phenomena of fever are fully Established, such as great thirst, furred tongue &c. The pulse, says Dr. Wood, is peculiar- "Sometimes it does not Exceed 90 or 100 in the Minute, & of Considerable fulness & Strength- while in others, & Especially females, very frequent Small, & Compressible"- often amounting to 110 or 120- When the disease has fairly set in, the Soreness in the limbs & headache increase, and all the Symptoms before mentioned in Connection with its inception become

intensified. At this stage want of sleep & Continual wakefulness become prominent symptoms. and sometimes Epistaxis. This state of things lasts for several days, when other symptoms are added to those Enumerated, & which bear more directly upon the disease in question, removing all doubt as to its true nature. for we often have in this, as in many other affections, to reason by Exclusion in many Cases. With the increase in frequency of the pulse & diminution in Strength, the following signs present themselves, viz; the aridity & heat of Skin increased, the tongue becomes more thickly furred & dry, slight nausea, & the bowels either loose, or easily acted upon by Cathartic medicines. The abdomen is now the seat of slightly pains, increased on pressure, Especially in the right iliac region. Tympanites is discovered on percussion, & a gurgling sound on pressure, dependent upon the admixture

of air & the thin facal matter. Sometimes Cough is observed, & slight bronchitis discovered upon an auscultatory Examination. The secretions are diminished. With reference to the distension of the bowels dependent upon flatus Dr. Wood observes "that it presents a convex outline from the Ensiform Cartilage of the Sternum to the pubes." Dr. Watson, on the other hand, Considers the Convexity lateral & not vertical, owing to the flatus occupying the Colon, ascending transverse, & descending. Dr. Wood, in a few pages further on, admits that the air is chiefly Confined to the Colon, thereby Confirming the opinion of Dr. Watson and refuting his own. At this juncture, if the abdomen be Carefully Examined, the peculiar Eruption Characteristic of this fever, may be discovered. which Consists Essentially of a rose Colored Eruption, resembling greatly flea-bites, though Easily distinguished from them in that when pressure is Exerted

upon them, they disappear, returning again, however, when the pressure is removed; and, Secondly, the flea bite is of rather a darker hue, more definitely circumscribed, and has a dark point in its Centre, which is absent in the rose spot. These Spots, few in number at first, but increasing gradually as the disease advances, remain for the Space of two or three days, then disappear. they are followed by others of a Similar Character. these disappearing to have their places taken by others: and thus the Eruption goes on in Successive Crops, until Variable periods. They present themselves first upon the abdomen, then upon the Chest, & finally upon the Extremities. They never vesicate or become petechial in Character. In low forms & protracted Cases of the fever, however, petechiæ are observed Sometimes & may Even merge into vibices or patches, indicating the asthenic State of the Circulating fluids. The most prominent Symptoms of this fever and those most frequently met with, & which may therefore be Considered Pathognomonic, Enabling us to form a Correct diagnosis, are the following.

The nervous symptoms, the frequent & feeble pulse, the meteorism of the abdomen, gurgling in the right iliac fossa - pain & tenderness on pressure, & diarhœa of a peculiar nature, accompanied with sympathetic affection of the mucus membrane in other regions, as bronchitis &c -
The tongue also presents peculiar phenomena in many cases. Thus, for Example, in a case where Convalescence is tardy, the tongue, instead of Cleaning at the Edges & tips, as is usual, throws off its fur in flakes; and, becoming recoated, the same process is gone through with - Should the tongue, during this operation, remain moist, it is a favorable indication; but Should it become dry & a stop be put to the process, it indicates says Dr. Wood, an aggravation in the intestinal lesion (which will be referred to further on) & will generally yield to remedies applied to that region - The nervous symptoms claim our attention, as they are always prominent, Even in slight cases. In mild cases the only nervous affections apparent are Constant headache

a tossing & restless Condition, & not unfrequently want of sleep. These may Easily be corrected by proper remedies, which we will notice when the treatment is taken up. Should the disease, however, be of a lower type, other nervous Symptoms, alarming in Character, present themselves. The patient becomes delirious, picks at the bed clothes, grasps at imaginary objects in the air, utters broken sentences, & even attempts, sometimes, to leap from bed, as I saw Exemplified in a young man at the University of Va. who subsequently died. The Expression of the face is sometimes painful to behold. great anxiety is depicted on the Countenance. while in others, when the disease has been of longer standing, & the Symptoms more advanced, the Expression becomes one totally deprived seemingly of all sense, & a perfect apathy or total unconsciousness to all outward impressions. Another Symptom which demands special notice from its almost invariable occurrence, is "Tympanites." This is frequently the main Condition which confirms us in our diagnosis when vacillating between two opinions.

Though this may occur in other febrile affections, and doubtless does, yet it is never met with to such an extent & with such uniformity as in the disease in question. The intestines, principally the lower part of the ileum & the Colon, are sometimes so enormously distended with flatus as to render the walls of the abdomen firm & unyielding, occasioning much Embarassment to the function of digestion &c, and causing the patient much uneasiness by the excessive stretch & tension on the abdominal muscles. If the hand be pressed low down in the right iliac region, a gurgling sound will be heard which is also perceptible to the touch. This is dependent upon the admixture of air with the intestinal Contents. In consequence of the intestinal irritation, there usually is present diarrhœa, & if this be not present, there is always ~~manifes~~ -ted a proneness to it from the use of the mild-dest aperients. According to Dr. Watson this diarrhœa is of a peculiar kind, of an ochre or pea-soup Color. On the increase in violence of the intestinal lesion, this frequently merges

into dysentery, or assumes a dysenteric type. This latter result rarely occurs Except in those instances where the ulceration has Extended so far as to have Eroded the End of some one of the Mesenteric vessels, thus allowing its Contents to Empty into the intestine. Should the ulceration involve the peritoneal investment of the bowel acute peritonitis is immediately lighted up, which Can readily be appreciated by the acute pain & Exquisite tenderness then Established. Thus we may Conclude when we see a Patient laboring under manifest debility with a frequent & feeble pulse, to which are added a majority of the symptoms above Enumerated as being among the most important, that he has Typhoid fever, with almost absolute Certainty. I will now pass to the Subject of the Varieties & Complications of this disease. There are many varieties & grades met with, some so slight as hardly to warrant their being Called Typhoid fever. others, again, in which the symptoms are of the most virulent

Character, & subject to many alarming complications
The principal complications & those most frequently
met with are Excessive gastric or hepatic derange-
-ment- inflammation of the brain causing Coma
or delirium, which rarely fails to bring about
a fatal termination- Coma, however, is generally
dependent upon a deficiency of nervous power
caused in the case of Typhoid fever by the
Excessive debility always attendant upon it-.
Often the pectoral symptoms, indicating severe
bronchitis or pneumonia, may predominate, giving
rise to what is denominated Typhoid-pneumonia.
But most frequently the bowels are the seat
of the direst trouble. The pathological pheno
mena & lesions discovered after a fatal termina-
-tion of Typhoid fever, are Essentially characteristic
and Enable us to state with almost absolute
Certainty the true Nature of this disease,
should we have Entertained any doubt as to
its nature previous to death. I refer to the
alteration in Peyer's patches or glands which
are located in the lower portion of the ileum.

They are also known as the "Glandulæ agminatæ" to distinguish them from the Solitary glands, which are to be met with throughout the intestine & have received the above name from their isolated position. The glands of Brunner are confined Exclusively to the duodenum. With reference to Peyer's patches, Dr. Dalton, in his physiology, states, "that they have no Excretory duct, and that the Contents of the vesicle, being pulpy & vascular are not to be regarded as a secretion, but as Constituting a kind of Solid glandular tissue" He moreover remarks, "that they are Evidently Connected with the lacteals & mesenteric glands & are probably to be regarded as the first row of mesenteric glands Situated in the walls of the intestinal Canal." This is a very plausible theory, as we frequently find inflammation of the mesenteric glands following the ulceration of Peyers patches, thereby giving rise to many of the symptoms which afterwards arise in the Course of the disease. Mr. Gray, in his anatomy says, the mesenteric glands in the neighborhood

of the ileum are greatly Enlarged & infiltrated with deposit in Cases of fever accompanied with ulceration of Peyers glands. Now if this be the Case, as we have Every reason to believe, from the free anastomosis which Exists between the Mesenteric vessels, Establishing, thereby, a Communication between the Mesenteric glands & Peyers patches: and, furthermore, as these glands perform the great office of preparing the Chyle in such a manner that the blood produced therefrom shall be healthy & pure. What this peculiar office is we know not; but that something important & Essential is here Effected we must unhesitatingly Conclude; as disordered nutrition & atrophy result, when they are diseased; and the Chyliferous vessels pass through them to the thoracic duct, which is sufficient Evidence & proof that some alteration is induced in the Chyle. From these facts, it is natural to suppose that these glands becoming Contaminated with the noxious Element or morbid material,

should taint the blood & through it the nervous system, giving rise to many symptoms hereafter unexplained. Thus, as the vena portæ is formed by a junction of all the blood returning from the Chylopoietic viscera, viz; the superior & inferior mesenteric, splenic, gastric, pancreatic. These all join, & after reaching the transverse fissure of the liver, bifurcate, one branch passing to Each lobe. they, then ramify & pass into the substance of the liver, where they ultimately become the hepatic, or rather, the blood Carried by them into the interstices of the liver, is taken up by the hepatic veins, which Empty into the vena Cava ascendens. May they not in their passage through the liver deposit materials sufficient to Cause the disturbance so frequently met with in that important organ during an attack of Typhoid fever. But all this, En passant. The Changes in Peyers patches are, firstly, the Enlargement which they undergo. after which, inflammation Ensues, Ending generally in ulceration. This ulceration may be Confined to the mucous Coat alone, or may Extend to the muscular. or again may involve the

mucous, muscular & fibrous, & Extending onwards to the peritoneal, perforate it, lighting up acute peritonitis which soon terminates the patients life. The solitary glands are similarly affected sometimes, though not to so great an Extent. Why the principal seat of the disease should be located in these patches, it is difficult to say; and, as no definite point has, as yet, been reached in reference to their particular function, the fact will probably remain a mystery until that point is satisfactorily settled. These patches Consist of Two kinds - the hard, which may undergo resolution, and the soft which always ulcerate. Other organs in the body are frequently seen to be the seat of some slight alteration, as softening of the liver & spleen, reddening of the mucous membranes of the stomach, intestines, pharynx &c all dependent upon the affection with which the fever may have been Complicated. These Complications are not invariable or absolute, & need, therefore, no further Comment. The <u>Causes</u> which produce the fever under Consideration have never been accurately ascertained, and diverse opinions have been

expressed on the subject. Thus Dr. Walsh considers it Essentially Contagious, as consisting of a Specific animal poison; and cites numerous instances, both in his own Experience, & cases illustrative of the same, in that of other practitioners, to prove his assertion. Dr. Wood, & I believe most of the practitioners of the United States, entertain, on the other hand, an Entirely different opinion, and from the Sporadic manner in which it frequently appears, I am rather inclined to the opinion that it is neither Contagious or infectious - unless in those instances where it prevails Epidemically - where the Specific poison is in a highly Concentrated form, & those brought under its influence, rendered more liable to an attack, by Strong predisposing causes. My own case, while at the University of Virginia, well illustrates the above idea. During the prevalence of Typhoid fever at the above mentioned institution, two young men, residing at the same house with myself, were attacked with the disease. I frequently went into their rooms to make inquiries Concerning their Condition; and, on several occasions, sat up with them -

The disease was then assuming an alarming Character & was rapidly Spreading throughout the Entire College Environs- no place was Exempt from it, & Scarcely a day passed without adding a new victem to its fell ravages. Fear seized upon most of the Students- their minds & imaginations were powerfully worked upon, & among the number—— Up to this time, I had felt Comparatively well, though much fatigued by my Nocturnal vigils; and, it was not until Terror had Spread throughout College, & I became alarmed for my own Safety, that I Experienced any of the premonitory Symptoms of the disease. During the Succeeding day, I felt very languid- had a nervous headache, with pains in my back,- also great aversion to any physical Effort. and I Sincerely believe had I longer remained at College, & Especially had I again Exposed myself by Sitting up with my fellow Student, in the State I was then in physically & mentally, I would have Contracted the disease. These predisposing Causes in conjunction with fatigue, anxiety of mind, Vicissitudes of Temperature &c, are Exceedingly liable to produce

the disease, Especially if the person be in the neighborhood or vicinity where it is prevailing, or may Even by o in themselves be sufficient to originate it — —

Of the Exact Nature of Typhoid fever, there is perhaps, as little known as in relation to its Causes. Whether the local Condition of Peyers glands give rise (being the primary Source of the disease) to the fever & other Symptoms which afterwards Ensue, which is probably not the case, from the fact that we note sometimes in the mildest forms of the fever death resulting from the Excessive disturbance in the Elliptical patches; or whether the disease is neurotic in its origin, or arises from the Contamination of the blood by an animal poison, producing such marked Effect upon the nervous System, or not, we are unable to say. All these theories have their advocates all of whom adduce facts & cases to prove their idea on the subject. yet still it remains a mooted point. I think by far the more preferable theory is that the blood is rendered impure by some

morbific material; and, in its circulation through the body, affects the various organs & tissues with which it comes in contact; but why it shows so particularly affect the Iliac glands, and in some cases be followed by aggravated Constitutional symptoms, while in others these symptoms are slight, although the intestinal lesion in both cases may have been greatly advanced & to the same extent, is a stumbling block over which we cannot leap. It seems inconsistent & paradoxical, - it is, nevertheless, true

Diagnosis - The diagnosis is generally easy, if sufficient time has been allowed to elapse for the characteristic phenomena to present themselves - and, although all the symptoms heretofor alluded to are not invariably met with in all cases, yet, generally, there are sufficient present to warrant an opinion, & upon which to found a diagnosis. It is sometimes, when the liver is disordered to any considerable extent and the stomach, mistaken for bilious remittent, but close scrutiny & the history of the case

will almost always enable us to distinguish them. Prognosis. The prognosis is doubtful in all cases, owing to the fact that death ensues sometimes in the apparently mildest cases. Results, however, taken as a whole, indicate the prognosis to be favorable. There is always more or less doubt in regard to the probable termination - hence physicians should be careful, particularly young practitioners, in expressing their opinions. Treatment. Owing to the various complications which may attend, & are incidental to, Typhoid fever, & the different degrees which the disease in itself may attain, its variability &c, some cases being so slight as scarcely to require any treatment at all while others are imminent in the extreme, no routine of treatment can be laid down for all cases. the indications being to attend to the general health, treat prominent symptoms as they arise and to be ever on the alert in examining those parts most likely to become affected, & to inquire daily into the state of the bowels, as to whether the patient has voided

the usual quantity of urine, & acquaint yourself with such matters which Experience attests, are Especially applicable to this affection. Some general rules which apply Equally to all fevers in their inception, may, with propriety, be here noticed. As it is Exceedingly difficult to accurately diagnose a Case of Typhus at initio, we should withhold our opinion, until sufficient Space shall have Elapsed, to Satisfactorily assure us, as to the true Nature of the disease under treatment; and, we will, it seems to me, succeed much better by addressing remedies to the actual & obvious Symptoms, than by a Speculative or Conjectural Course of treatment. The State of the bowels is, under all circumstances, the first thing to be attended to. We should, therefore, make inquiries as to the State of the alimentary Canal - if they have not been moved for some time, a gentle aperient may be administered, as the bowels in this disease are often free at the outset, or Else Easily acted upon by the mildest medicines. Half an ounce of Oleum Ricini may be Exhibited - or, if acidity of Stomach Exist, Sulphate of Magnesia, and an alkali. It would be

best, probably, to give this gentle laxative in most cases, so as to produce a full & free Evacuation, in order to perfectly clear out all irritating substances which may possibly Exist in the prim@ viæ. In this, as in all other febride affections, the next symptom which demands our attention is the fever. Now, as disease at the present time is not of as sthenic a nature as formerly, & the inflammatory action therefore, not so high, there having been a Complete revolution in the nature of febride affections within the past half Century, by what Cause rendered so we know not; and, as in this fever, as its name indicates, there is a great tendency to debility, & we aught to husband as much as possible the strength of the patient, it is best not to institute depletory measures of a general character.

If there be determination of blood to any important organ, as frequently happens to the brain, a few leeches or cups to the back of the neck, will often prove beneficial - if there be tenderness on pressure over the abdomen & you have Every reason to suspect inflammation within, local bleeding will also be indicated

there. After these two important indications have been attended to with Satisfactory results, the general Condition next presents itself for our Consideration. Refrigerant deaphoretics are now indicated, as the Skin is dry & hot, in order to promote a gentle perspiration & render the Skin soft & natural, & Enhance the Comfort of the patient; and to fulfil this no remedy seems to have met with such general favor as the Citrate of Potassa or neutral mixture. This is best prepared as follows. After having Squeezed the juice from a fresh lemon Equal parts of this & water are taken, and immediately before administering, add to it a Solution of the bicarbonate of Potassa, with a little Sugar if desirable, to make it palatable. Mix the two together, & give to the patient during Effervescence. It will be found a pleasant draught & grateful to the patient, independent of the good Effect it Exercises upon the disease. This may advantageously be Combined with Spiritus Aetheris nitrici in doses of from ʒj - ʒiij, should the nervous Symptoms become troublesome. Want of Sleep is not

unfrequently present, for which opium is the best remedy, should it not be contraindicated by any disturbance of the brain. The most eligible form is the Pulv Doveri, which combines diaphoretic with its anodyne properties - Should irritation or trouble about the brain preclude us from using this agent, Hoffman's anodyne the Compound Spirit of Sulphuric Ether may be Exhibited. If the patient still feel heat of Skin & fever after all these means have been tried, the Surface should be Sponged with tepid or moderately Cool water, which must be discontinued as Soon as a Chilly Sensation is produced - but So long as it is grateful to the feelings of the Patient, it is right & proper to Continue it. In Conjunction with these measures, happy results Sometimes follow the administration of the Tartrate of Antimony in fractional doses, though we Should be Exceedingly Careful with this Drug from its known debilitating effects - The following receipt will often exert a beneficial influence. Combing as it does both refrigerant & diaphoretic

properties - viz: ℞.

Potassæ Nitratis grs xxx

Antimonii Tartratis - grs j.

Pulv Ipecac - grs j - misce,

ft. chartæ vj - Sig, one to be taken every four hours. Our attention is next called to the abdominal disturbances where there exists generally tenderness on pressure; over the situation of Peyers patches, and accompanying this a sore feeling over the whole abdomen, caused by irritation of the mucous membrane of the bowels - this sensation being readily distinguishable from the exquisite pain produced when peritonitis is super-added. To allay this dis-agreeable sensation, a large mush poultice with a few drops of Tincture of Opium sprinkled therein, kept constantly applied, removing them as soon as they become cool, & substituting fresh, often affords great relief. They should be sufficiently large to cover the whole abdomen, and it is essen-tially requisite to keep them applied as hot as the patient can bear them. This is a simple precaution, but it is frequently overlooked, either from negligence

ignorance or laziness on the part of the attendants, & more Evil than good results from the non-observance of this advice. But frequently this will not suffice and recourse must be had to Cataplasms of mustard, pepper, & even blisters. Local bleeding by means of leeches is particularly salutary oft times, and should the tenderness still Continue, as it frequently does, despite all our efforts, a blister should be applied immediately over the leech-bites. They should never be allowed to remain on for any Considerable length of time, however, Especially in protracted cases, when the vitality of the part is low, as sloughing is apt to result. Frequent Examinations should be instituted, and, as soon as suffused redness is detected, they should be instantly withdrawn.

If the diarrhoea become troublesome, it may be Counteracted by Opium & some of the vegetable astringents; and, if profuse & exhausting, acetate of lead, tannic acid &c may be Combined with the Opium, or substituted Separately, which will generally check its progress. A very good Combination for

this purpose is the following,

℞-

Cupri Sulphatis
Morphiæ Sulphatis āā grs j
Pulv Myristicæ - - - - grs XXIV

ft pillulæ viij - Sig one thrice daily - - - - - - - -
The neutral mixture may be continued also, if it agree well with the Stomach, which is generally the case - care being taken, however, not to administer it immediately after or before the above recipe, - Else Sulphate of Potash be formed by the union of the Sulphuric acid of the Copper or Morphia Salts with the potassa of the Citrate - If the patient desire it, a little ice water or cracked ice may be given occasionally Sometimes the flatus is excessively troublesome, and, independent of the distress it occasions the patient, is injurious in other respects embarrassing the functions of the alimentary canal &c, and should be, therefore, promptly treated - For this purpose a fluidrachm of washed Sulphuric Ether will effect the object in view - In the Event of

this increasing the fever or determining blood to the head, the oil of Turpentine may be substituted given in the dose of from ten to twenty drops, or by Enema, in which case twice or thrice the amount should be given. Great advantage is almost invariably derived from its use. With the Employment of these measures the symptoms will usually abate, & should no untoward Event happen, Convalescence will begin.

Frequently, however, a different set of symptoms arise, from those above Enumerated, and the nervous system Exhibits prominent symptoms. The head-ache, more or less of which has Existed from the onset of the disease, assumes a more alarming Character - the pain becomes more acute & intolerable, & often the patient will exclaim that he feels as though his head would split in twain - from the Excessive throbbings. In such cases, the proper treatment Consists in the applications of mustard plasters to the back of the neck; and, if rendered necessary, by the non-abatement of the pain,

the Scalp should be Shaved, & a large blister applied. The following recipe will often add much in reducing the pain, in Combination with the other means Employed viz;

℞.

Potassæ Bicarbonatis ʒij
Acid Hydrocyanic - gtt x
Aquæ Destillatæ —— ʒiv - ft Solutio.

Liz - dessert Spoonful every four hours.

Particular attention must always be paid to the State of the tongue, as it is often a sure index of the Condition of the System, & particularly, of the intestinal lesion. The tongue is always more or less Coated, but the Character of the Coating & the accompanying Signs are matters of vital importance. Thus, should the tongue present a white fur on its Surface, accompanied with moisture, we may Confidently infer that our Patient is doing well, & may look for a favorable termination; but, on the other hand, if gradually or, as often happens, Suddenly, the tongue

assumes a different aspect, and instead of a white healthy looking fur, it merges into a dark brownish or blackish hue, at the same time becoming dry & Cracked, while dark Sordes collect upon the gums & teeth, the symptoms always become aggravated and alarming, & our remedial means should be promptly addressed & rigidly Enforced. When this State of things Exists, the nervous symptoms generally abate, while others of a more pernicious & fearful Character present themselves;- the patient becomes apathetic- his Countenance puts on an Expression, Either of anxiousness & Excessive distress, or Else a Comatose State ensues, and it is with the greatest difficulty he can be aroused from this lethetude of mind,- frequently, his mind wanders, & he gives utterance to low muttering All these symptoms are indicative of Excessive debility & measures should be immediately instituted, "ere the vital Spark has fled"- Delay is always dangerous in all

things, but in this, is often fatal. What are we to do under these circumstances? As the foregoing symptoms are always dependent upon an increase in the intestinal trouble & also the depraved state of the blood, together with the wear & tear of the system from the full destroyer "disease"; our remedies should be addressed to those parts which most require it, while we also support the general system by tonics & stimulants to rally it from its fatal apathy.

The Oleum Terebinthinæ, which has met with almost universal favor in this peculiar disease, & particularly, at this juncture, is the means upon which we now alone rely for snatching the patient from the jaws of death.

This remedy has been recommended by all the recent writers on the Practice of Medicine, but more Especially insisted upon by D. Wood of Philadelphia, who, both in his work on Practice, & Materia Medica & Therapeutics, speaks of it in the highest terms - with the warmest eulogiums

That this remedy is specific, or as nearly so as any medicine can be claimed to be, in this peculiar condition, no one, I believe, can, for an instant, doubt. in fact, it is beyond all cavil.
It should be administered in doses of from ten to twenty drops every two or three hours, until some effect is manifested.
One of the most important matters to be looked after at this stage is the state of the bladder. The patient, being in a state of partial insensibility, is not cognizant of, & therefore, takes no note of the distention of this viscus. Now, there is excessive danger of rupture of the bladder from over distention; but in the anxiety of the nurse & attendants & frequently, the physician (for he is sometimes culpable) to allay the other symptoms, they devote all their attention to these, & pay little notice to other things.
It often happens, also, that the bladder, having become stretched to its utmost capacity, allows the urine to dribble away & the nurse, mistaking this for a free discharge, answers the physician

in the affirmative, when asked whether the patient has voided his urine.

Knowing that this condition of things is apt & likely to occur in low & protracted fevers, it is the duty of the medical gentleman in attendance always to Examine the parts for himself & ascertain their condition, never trusting to the account given by the attendants - and, if necessary, draw off the urine by means of the Catheter.

This cannot be too strictly enjoined, for it is a matter which is frequently overlooked & neglected. An article in the Maryland & Virginia Medical Journal (September No. 1860) by Professor N. R. Smith, on Over-distention of the bladder, plainly sets forth the dire Consequences, frequently resulting from neglect on the part of medical men to attend to this matter, and is one Eminently worthy the perusal of Everyone.

(We there is a great tendency on the part of the skin to slough, owing to the depraved & low state of the Capillary circulation, & Consequent Enervated vitality of the surface, the most

prominent parts of the body, such as the tubera ischii, shoulder blades, spinous processes of the vertebra &c, should be constantly Examined, & if a superficial redness be manifested, a little brandy or some stimulating lotion, be applied & pressure removed. If there be an abrasion of the skin, it would be advisable to apply Lead Plaster, or some anticeptic agent. Soft pillows or Cushions of down often answer a good purpose; but, what is infinitely better, a mattrass cut into two pieces, & the diseased part placed between the two, where no pressure whatever can be Exerted, as recommended by Professor Samuel Chew.

Along with this treatment, we must attend to the patients general Condition, & support the system with tonics & stimulants. The Sulphate of Quinia has been frequently tried in this fever with a view to its preventing the further Course of the malady, or cut short its progress, as is seen in its control over the intermittent and remittent types of fever; but the large majority

of the profession Entertain the idea that it can Exert no such influence over Continued fever, although there are Some Cases reported, by Eminent men, of its Efficacy as an antiperiodic in this as in other formes of fever.

However that may be, we will not, here, stop to inquire. this fact we are Satisfied of with regard to it, however, that it is an Excellent tonic, & may be advantageously administered in this disease. If it produces no uneasiness about the head or any unpleasant effect upon the Stomach or intestines, it may be given in minute doses, frequently repeated. Infusions of the vegetable bitters are frequently given with good results, & great benefit has resulted from the use of the infusion of Serpentaria or Virginia Snakeroot. The oil of Turpentine Should be Continued in Connection with the above remedies, & the dose gradually diminished. but it Should not be Entirely omitted, until there are obvious & patent manifestations that the Effect required by its administration

have been accomplished - These soon display themselves in the amelioration in many of the prominent & most dangerous symptoms, such as a gradual decrease of the abdominal distention, Expulsion of flatus per anum, increased moisture of the tongue, & a return to its natural state & normal Condition, increased strength of pulse, & no pain felt on pressure over Peyer's glands. Should these happy results be observed to attend the use of these measures, they must be Continued - and a strict observance be Exercised with reference to the patients diet - Nothing of an irritating Character should be allowed him, but the simplest regimen enjoined - such as weak gruels, tapioca, arrow root &c &c -

But should the symptoms assume a Low type, & take on a <u>typhous</u> Character, Especially should a Comatose State Ensue, recourse must be had to stimulants, as Carbonate of Ammonia, Wine whey, & Even Brandy - Rubefacients, hot oil of turpentine, mustard Cataplasms &c, must be applied, if Coldness of the Extremities

Exists, to those parts, proper precautions being observed as to the length of time they remain on.

Sometimes the head symptoms assume a grave character, either caused by an afflux or determination of blood to the brain, causing delirium, or, what is more frequent, especially at this stage of the disease, Coma, produced by the depraved state of the blood, not acting with sufficient energy to excite the nervous centres into the proper performance of their function. Under these circumstances, blisters applied to the Calf, are the best means we possess to counteract these results. When delirium exists, caused by determination of blood to the brain, it is often temporarily relieved by Epistaxis, which, if too profuse, may be stopped by astringent applications, or by plugging the nostrils.

Excessive nervous affections, as picking at the bed clothes &c, which are always bad signs, or forerunners of death, may sometimes yield to the antispasmodics, as Camphor, Musk,

Assafoetida, the second (mustk) being by far the most preferable of the three.

Should perforation of the intestine occur, lighting up acute peridonitis, our only hope is in the use of large doses of Opium, freely & repeatedly given.

As much has been said with reference to the use of mercury in this affection, it, therefore, deserves a passing notice.

There certainly are periods & stages in the disease when it would appear to be strongly indicated; and however variable the results may have been, as recorded by Eminent members of the profession, the generality of them agree, I think, that no ill results attend its administration; hence it seems to me that it would be well to try it at the particular periods at which it is especially applicable as all means within our grasp should be availed of to ameliorate the Condition of our patient, & if possible, cure him. it can do no harm. it may be productive of much good.

When there is danger of any local inflammation when the secretions are scanty - torpidity of the liver accompanied with the results proceeding from that as a cause, mercury, from its acknowledged power over these symptoms, is strongly indicated. In case of inflammation of any internal organ, & particularly in a complaint like the one in question, where the abstraction of blood is attended with direful results, Mercury is the best antiphlogistic means we possess to overcome it. therefore, when these indications arise in the course of an attack of Typhoid fever, we should always give the remedy a trial. "Anceps remedium potiusquam nullum" - In its administration, it should always be combined with opium or some other remedy of that nature, as it has a tendency to pass off by the bowels, & no constitutional effect can therefore be produced. A good combination, recommended by Dr. Wood, is the following. Rx. Mass Hydrargyri .. grs XII
Pulv Ipecac ... " ij
" Opii ---- ij —

The happiest results have been observed from its use, & if we are Enabled to bring the System under its influence, as is manifested by Soreness of the Gums & peculiar odor of the breath, we may Confidently look for a favorable issue.

Regimen. Great Care Shauld be taken with regard to diet & other prophylactic measures in the Convalescence from Typhoid fever. Perhaps there is no disease which requires more Constant attention both during its Course & Convalescence, as the one we are treating of. The tendency to a relapse is so great, and results from such slight Causes, that untiring attention & a strict observance of direction must be Enjoined by the physician on the attendants. A slight deviation from the mildest diet may bring on a recurrence in the intestinal disturbance, from which death may result. The patient Shauld always be warned of the danger which is apt to Ensue from an indulgence of his appetite, which is generally Keen, as his Condition becomes bettered, & that

he must follow the regimen laid down to the letter
however much it may deprive him of present
gratification, & that his life or death is in his own
hands. These measures, with Confinement
to a room of Uniform Temperature until
Convalescence is Complete, are the directions
to be observed in Every Case, however mild ---

An
Inaugural Dissertation
on Digestion
submitted to
the examination
of the
Provost Regents and Faculty of Physic
of the University of Maryland
for the degree of Doctor of Medicine
by William Fountain Gill

Gentlemen,

The attempt to write an article on any medical subject to be subjected to your critical investigation, may well be supposed is attended with a no small degree of reluctance, and is no less quite of embarrassment. A novice in any art or profession, in his first efforts, steps over the ground with nervous trepidation and this feeling is augmented in proportion to the responsibility of the position he assumes. And I think I can assert without fear of a successful contradiction that the position I am now about to take, involves responsibilities in which there is none more weighty. The limited sphere as regards practice and experience, in which a medical student necessarily moves, renders it next to an impossibility to present anything that will bear upon its face the impress of originality. For if an original thought finds its way from his brain, the fact that the life of a human being hangs upon the delicate thread and unless he can sustain it by an argument irresistible in its character,

his natural modesty will compel him to suppress it. And what he writes will only be the reflex of the thoughts of his medical authors and Professors. And yet the age in which we live has properly been designated as a progressive one. The marks of advancement have been clearly visible, ever since the magnificent sun of the Reformation broke in brilliance on the eastern world. Its light and influence have irradiated the darkest retreats of either hemisphere and have sprung into action the most gigantic efforts of the human mind. The wide panorama of excellency which for centuries has been imbosomed in the limitless lap of Nature, has been opened to the admiring gaze of the world, by the hand of Science and Art; which like two loving sisters have met and embraced each other. Science is progressive! This noble acquisition to the mental conformation of man, is still deepening its channels and securing our enlarged admiration. We view its onward and irresistible march as we look through the

glooms mists of departed ages? Like a majestic stream fed by a thousand tributaries, we see its innumerable auxilliaries like streams of shining silver poured into the one vast and common reservoir; reminding the dwellers upon earth, that the immateriality of man is associated with all that is glorious and exalting. Science is progressive. And its progressive destiny is inseparably connected with the existance of Mankind. This is a theme that is pregnant with substance for the philosopher, the man of science, and the historian.
"Wonders will never cease", is a common and well received axiom and the embodyment of a greater degree of significance, than mere superficiality is apt to divine. The developments in science are rapid and steady. Scarcely a star arises to gild our eastern horizon, but that it shines for the first time upon some newborn scientific creation. Myriads are multiplied upon myriads, until the shelves of the man of science are made to groan beneath the ponderous weight of

accumulated treasure. The tombs of gone ages have been ransacked for conceptions, with the latent hope that some might be found that were not thoroughly digested or perfected, and as generation follows in the wake of generation the same retrospective investigation will be instituted. Among the proud, monuments that have been erected to the memory of science, is that which towers with peculiar grandeur over the Pantheon of Medicine. It speaks to us from the remote shades of antiquity and from the classic groves of the ancients. From the days of Hippocrates down to those of the learned Faculty of the University of Maryland its march has been onward and unfaltering.

Its position among the learned professions is high. There is none more excellent or elevated. There is none more worthy of the best and holiest ambition of man. Were an instrument drawn requiring the endorsement of its indispensableness the world would sign the document. The march of the science

of Medicine recognizes no limitations and it will press on until the last man shall have returned to his mother earth.

I have chosen as the basis of my remarks, The Theory of Nutrition. It comes under the head Special Physiology and belongs to the second class of the phenomena of life; which includes the processes of growth and nutrition, assimilation by which the different parts of the body derive materials from the blood to replace the loss and waste which they naturally undergo in discharging their various functions or through their normal impairment and decay. The term Digestion includes the complex result of a series of operations by which crude alimentary materials are fitted by reason of certain mechanical and chemical changes, to the assimilative action of the absorbent cells of the intestinal villi. It is therefore not the denomination of a single specific function but a general term which includes various

of functions. In some of the lower animals however, the process is much more simple and corresponds to the action of the stomach only. All other parts of the digestive apparatus in man are mere superadditions and although most, or all of them, are of such importance in his economy, as to be essential to the maintenance of his health. It is not because they alter the essential nature of the process which is really the same for all, but because they are necessary either to bring the food into most advantageous relation with the stomach or to stimulate the latter to a more efficient production of the gastric solvent.

The sources of demands for food by animals are 1st To build up the fabric in which is included the development of the generative cells. 2d To repair the normal waste of the system which seems to depend on the natural disintegration of those compounds of which the fabric is composed. 3d To repair the more rapid normal waste consequent on the exercise of the tissues, especially that of the

nerves and muscles. 4th To maintain the normal and uniform temperature of the body, by furnishing carbon &c. as combustibles, when those which are liberated by the waste of the different tissues are insignificant in quantity and quality. 5th By to repair the effects of unusual and extraordinary wastes such as depletion in its several forms, profuse suppuration, diarrhoea, of a protracted character, diabetes, pregnancy lactation &c &c. To thoroughly understand the whole process of digestion, it is necessary to premise, that in addition to water and the saline inorganic ingredients of the blood, our food must contain ingredients derived from each of the following classes. 1st The albuminous aliments. 2d The acchal Hydrocarbons, such as sugar starch or gum, and 3d oily aliments. I may here mention that the digestion of each of these classes is peculiar and different from that of the others, but to avoid prolixity I will not enter into their characteristic differences.

It is proper that I should here enumerate the several acts concerned in digestion. Hunger and Thirst, Prehension, Mastication, Gustation, Insalivation, Deglutition, Chymification, Chylification or action of the small intestines, and the juices poured into it and Defecation. I will also add that Hunger and Thirst, Prehension, Mastication, Gustation, Deglutition, and Defecation, are animal in their character, while Insalivation is Organic, and Chymification and Chylification are Complex. Though the manifestation of hunger and thirst precedes the other acts, yet, as one of these appetites has its seat wholly and the other only partly in the Stomach, and both are more closely correlated to the digestive acts, I will not notice them here but may have occasion to do so subsequently. Prehension is purely voluntary in its character, the execution of which brings into play the muscles

which move the hands and the lower jaw. This act is of great importance, though mechanical in its results; for it is performed by means of vital agents which vital agents are excited by a physical stimulus. The explanation of the process of mastication properly comes under the head of the Special Physiology of the senses. There are several conditions necessary for the perception of taste. First, the presence of a nerve with special endowments. Second, this nerve must be correlated or stimulated by the sapid matters taken into the mouth, and thirdly, the solution of these sapid matters in the secretions of the organ of taste. The substances to be tasted must be in solution or in such a condition that the moisture which covers the tongue, will render them soluble, for we know that if we place an insoluble substance upon the tongue, it is almost if not wholly tasteless, and we have merely the sensation of touch produced. And even sapid substances in solution, are tasted with differently when the fauces and tongue are dry.

I only mention the fact of its influence on the digestive process proper. Hence, the utility of various Condiments such as Salt, pepper, ginger, mustard, &c &c in Insalivation. The Mouth is the cavity, where the different solid articles intended for nourishment, are submitted to the action of the teeth, which divides and crushs them, while at the same time the fluids of the mouth mixe with them, and they are thus reduced to a soft, pulpy state, which admits of their easy passage into the stomach. We find that the mouth is the place where the first of the series of changes which the food undergoes in the digestive canal. The glandular arrangement is quite extensive for the production of saliva. In Man and Mammalia generally, there are four pairs of glands which supply the fluids requisite to this important act of digestion. The parotid, the Submaxillary, the Sublingual, and Intralingual.

The first three are of major the last named of minor importance Besides these there are a number of smaller bodies similar in their character and structure These are scattered beneath the mucous membrane of the root of the tongue, soft palate, lips, and cheeks and in fact the whole buccal [illegible] is supplied with these small inunctories each having separate ducts [illegible] which this fluid finds its way to be mixed with the food The quantity of this fluid secreted is different from the different circumstances producing it. When there is no particular stimulus applied to the nerves of the mouth and when the muscles concerned in mastication and the tongue are at rest there is usually no more than is required to lubricate the mouth and throat and prevent an unnatural dryness but as soon as savory food is taken into the mouth and the muscles are set in action the flow is quite copious The amount is sometimes enormous and is kept up through the whole day as in persons who are habituated to the use of tobacco It is sometimes produced when there is no food

in the mouth and when the muscles are at perfect rest, as when some savory dish is placed before us, or the mere mention of the name will to use a common expression make the mouth water. The quantity is also regulated by the kind of foods to be prepared. Thus the crumb of bread requires much less than the crust. The secretion of some of the glands is more aqueous in its character and it is believed that this is which mixes freely with the food to soften it while those glands whose products are more viscid and mucoid in their characters, furnish an envelope which enables the food to pass into the stomach more readily. The food being prepared by mastication and the solvent powers of the secretions of the mouth it rests upon the second act of digestion Deglutition or swallowing. This act is in its character purely reflex. And although we seem to be able to swallow at our will, yet such is not the case only so far as the first act is concerned. This act is divided into three parts the first being voluntary the other two being involuntary. This is so from the fact that the nerves

which excite the muscles which perform the act of swallowing are sent off from the spinal cord and not the brain and the presence of the food with the surface of the fauces excite these motor nerves to action. This nervous impression is then transmitted to that portion of the spinal cord within the cranium or medulla oblongata and is accomplished by the afferent nerves which terminate in it. The Medulla Oblongata responds to this by transmitting a motor impulse to the muscles concerned and the act is accomplished We have now followed up the digestive act till the food arrives in the stomach where it is to be subjected to the action of the Gastric Fluid which is secreted by the walls of the stomach by means of a most extensive & circular arrangement. When the stomach is at rest, or when there is no food to stimulate it, these follicles or glands appear to be dormant, but so soon as their natural stimulus is presented they are aroused & actively work from out the product required for digestion. Besides the tubular or gastric glands proper, there are other structures of a glandular character

somewhat resembling the glands of Vipers but they are not present except at the time of digestion and it is thought that after furnishing a material essential to the digestive act they burst and discharge their contents after which they disappear

The gastric juice is of an acid character and as the process in the stomach is a purely chemical one this acid seems indispensable to its proper performance There is an animal Matter also indispensable to the digestive act and from its power in the process of digestion has been termed pepsine The presence of both at the same time is requisite for the acid alone will not accomplish the digestive act Neither will the pepsine without the acid for neutralize the acid or decompose the pepsine by any means and you suspend digestion This has been tested upon food out of the stomach placed in conditions as nearly as possible like those in which it acts therein. The pepsine is thought to act as a ferment and yet after all the experiment which have been made by men of

research and investigation there is still a great deal
of mystery involved in the beautiful process. We
hope that this will in their turn disappear as others
have done before the scalpel of investigation. After
we have seen the mechanical and chemical changes in
the stomach, the food is converted into a grayish ho-
mogeneous pulp termed Chyme. From the stomach
it passes into the duodenum where it is brought in
contact with the secretions of the liver and Pancreas.
If we are to judge in size of this enumeration the liver
has a most important office to perform in the economy
of the system. The large amounts of blood which is
sent to it and the fatal effects upon the system
when its functions are suspended, from its great importance
& part of its secretions is no doubt purely excrementitious but it also performs a very important part
in the digestive process. It has the property of rendering
the fatty parts of the aliments more soluble, which
process is somewhat analogous to the action of
soap. We know that if from any pathological
conditions the secretion of bile is suspended, or if
there is any obstruction to its passage into the intestines

a disordered condition of the digestive process is the result, and there is a suspension of the normal peristaltic action, The Nutriment prepared for the absorbent vessels is lessened in quantity, while the evacuations from the bowels are of a white and chalky color instead of the Natural and healthy yellow observed when all the functions are performed normally, As to the uses of the Pancreatic secretions in the digestive process, we are still in the dark to a great extent. As far as we know they seem to perform an office very similar to the saliva, The Chyle is now seperated from the Chyme in the duodenum and the rest of the small intestines, Numerous chyliferous vessels which have their origin in the mucous surface of the intestines, then take it up when it is passed through the Mesenteric glands & after emerging from these glands, the lacteal trunks discharge their contents into the receptaculum chyli: situated in front of the lumbar vertibra, The contents of the lymphatic system are also emptied into this cavity. It passes from the receptaculum chyli to the thoracic duct which

its course along the bone receiving other lymphatic trunks until it terminates at the junction of the left subclavian and jugular veins where the sanguiferous system receives its contents.

The remainder not absorbed into the system is passed on through the intestines by their peristaltic action with the waste in the digestive process is accomplished that of defecation.

An inaugural
dissertation on
Yellow Fever,
submitted to the examination of the
Provost,
agents, and faculty of Physic
of the University of Maryland,
for the degree
of doctor of medicine
by
Charles W^m Mc Neilson.

Yellow Fever

18[illegible]

The nature of Yellow Fever and the name by which it ought to be properly designated, have been matters of infinite dispute among nosologists; and in this conflict of sentiment each writer has given it the title best suited to his own views of its origin history, and character.

It is named by Cullen Typhus <u>icterodes</u>, expressing very well the light in which he regarded it, as a fever of a low form modified by derangement of the hepatic function.

It is named by Pym the Bulam fever, from its supposed origin in an obscure island of an African river.

Another name and one of its oldest names is the Mal de Siam. The French West Indians know it as la fièvre jaune, fièvre matelotte; the Spanish Americans call it from one of its worst symptoms, vomito negro, vomito prieto.

The orange hue which tinges the skin in a very large proportions of cases, has given it the appellation of its [illegible] familiar name Yellow Fever.

Without speaking of its origin directly, I will first invite your attention to the many theories advanced by Physicians for the cause of Yellow Fever, and in doing this I will not occupy your valuable time with a prolonged discourse upon these apparent delusions.

I wish simply to enumerate some of the principal causes assigned by Physicians for the production of this terrible malady and pestilence, without making an attempt to expatiate upon these different positions myself, as I am fully convinced from the number of celebrated authors writing upon this disease, that they have been successfully pursued by Practitioners throughout this country, and have received a just tribute of merit.

1st

Yellow Fever has been attributed to the agency of peculiar or specific causes, among which contagion is mentioned, and to this most impor-

-tant subject) will briefly solicit your attention at a further period in this thesis.

2.

Atmospheric vicissitudes have claimed the attention of medical philosophers for a long period of time, without any apparent success in solving this great problem.

3.

Animal and vegetable dis-positions, stagnant water, peculiar soap bubbles, and many other trivial causes have also been assigned a place in this category.

4th

Some have supposed that peculiar acids commingled with the atmosphere have a tendency

to originate this peculiar virus: among them stands "Septic air", and the "Acidum Pingue" of De la Boe.

5th

Idiopathological causes have been ascribed to the production of the virus.

6th

Mephitic exhalations from churchyards, marshes, and swampy regions.

7th

The assimilating cause advanced by Liebig.

Before proceeding to trace any further these important enquiries, I wish to controvert the total futility of this reasoning, by calling attention to that singular fact well known, that

which presents itself to all:—
it is this. Why cannot these
causes mentioned be adequate
to generate the virus of Yellow
Fever in "Calcutta", as well as in
"Vera Cruz", in "Nil", or in "Havana",
in "Jerusalem" or "Naples", as in "Seville"
or "Charleston"?
From the foregoing fact these
causes cannot claim exclusively
the attention of Physicians as
being the prime originators
of the pestilence, but undoubted-
-ly do merit consideration.
I am reluctant to advance
any theory for the cause of
Yellow Fever, being fully con-
-vinced of the utter impossibility
to do so; without disparaging
in the least the able and meet-
-torly efforts of writers to interpret-

as my writers cause, I cannot reconcile to my mind these seeming contradictions and relinquishing in this connection these ponderable claims, I desire to make for your consideration a few remarks relative to the partial history of this disease. Yellow Fever has occupied the attention of medical men since the memorable year of 1699, when the Barbadoes fever made its appearance, which is described by Hughes in his history of that island.

Referring again to its history you find its casual occurrence in "New York" in the years 1701, 1702, 1791.

Nth.

Its origin in the ship Hankey

[illegible] of
Africa in the year 1743, is described
in [illegible] account
of its origin: this same year its
appearance in "Granada" and
"Philadelphia", shows incontestable
proof that its origin was far
away, and its invasion was owing
solely to foreign importation.
You will readily perceive from
these fragments of its history its
just claim to be ranked as an
exotic.

2d. Another reason for the
proof that it is an importe
pestilence and being of no in-
ferior value to the preceding, is
the well known axiom, that
Yellow Fever cannot be produced by
the combined or separate causes
that [illegible]

the generation of this peculiar virus:- a distinguishing feature in the disease.

2nd The prevalence and malignancy of Yellow Fever can be arrested by the absence of the supposed causes already referred to, and promoted by their presence; indicating to my mind a fact of great hygienic import, which has been brought [illegible], as is evidenced by the sanitary measures adopted by the large commercial cities to prevent its invasion, and to check its progress when already endemic or epidemic.

3rd

Its invariable appearance among the shipping of large commercial cities, at [illegible] times of

[illegible] strengthens still
farther the belief that it's
exotic origin.
Contagious.

[illegible]
more time among medical practi-
tioners of late, than any other
in the Practice of Medicine; each
one claiming for it according to
[illegible] contagious
or noncontagious property.
There are able advocates on both
sides; how shall this question be
solved? Refer to history.
[illegible] of the pestilence
from the Africans [illegible] to the
island of Boa Vista, and thence
to the shores of England; the
spread of it to New Orleans up
the Mississippi, and along the
borders of the Gulf of Mexico;

from Mobile to Citronelle, [illegible]
from Mobile to the Alabama
River, to Selma, and Montgomery:
at the Naval [illegible] Quarantine
Staten Island you have ample
proof of its contagious character.
Ships from infected ports com-
municate the disease to
the [illegible] of the [illegible],
while the densely crowded and
foul metropolis escapes its
pestilence.
As to personal communication
I will cite two cases on good
authority. From a report made
to the American Medical Association
in 1854, by Dr [illegible] an able
opponent of [illegible] the [illegible]
"A Mr. McManus, who lived on
the hill of Hinds Co., more than
40 miles from Vicksburg, [illegible]

to that city and remained there several days during the scourge of the epidemic in 1841.
Returning home, he was soon attacked by the fever, of which he died after throwing up black vomit.
A few days after his wife who attended him during his illness and had not been away from home, soon became sick and died of black vomit, and yellowness. Their residence was in a high and healthy locality, where yellow fever was never known to prevail."
Dr J W Francis cites the case of his own person having taken the disease from his father who died of yellow fever; he being unexposed to the poison.
From these cases and from its

history we can consider all that is clearly known of its generation.

1st. It is produced by the agency of a specific and peculiar cause.

2nd

In certain localities, this obscure cause is permanently in strong action; in others, it exhibits only an occasional activity.

3rd

In relation to season and temperature, it specially, if not solely, [illegible] only during the months of summer and autumn.

4th

Yellow Fever is contagious: in other words, a case of yellow fever having been generated in a favourable season and locality, by its unknown and undetected cause becomes the

[illegible]
of other cases, or of a marbid agent
[illegible]
[illegible]

[illegible]
[illegible] to another, or from any
of its generating [illegible]
locality; [illegible]
may take place in two modes,
either by [illegible] a portion
of atmosphere in which is diffused
its undefined specific cause;
[illegible]
from any [illegible] it [illegible]
epidemically, or by the introduction
of a sick body, [illegible] any [illegible]
imbued with its contagion, pro-
-vided the temperature is favorable
for its propagation.
A singular feature in this
disease, is that it is more

apt to attack strangers and that the immunity of the Natives of South America, West India [illegible] and those on the Gulf of Mexico is [illegible] to [illegible] plates. In Charleston it is nearly so, it being called the strange is fever. [illegible] to offer protection, though some have been attacked after several years' domiciliation.

The nature of the protection derived from acclimation is not known. The fact is not denied, and goes to confirm the [illegible] clearly established of the characteristic speciality of this disease on its wide separation from intermittents and remittents against which no acclimation depends. On the contrary, malarious fevers

leave behind them a well known predisposition to succeeding attacks. Yellow Fever rarely attacks a person a second time.

In speaking of predisposition, the negroes seem to be partially exempt from attacks of Yellow Fever.

The exciting cause of yellow fever are the same as in the production of fever of other types.

Exposure to heat of sun, to dampness of chilly dews at night; fatigue; excesses of all kinds and intemperance in drinking.

To diminish the violence of this disease a foreigner should avoid all the above sources of the exciting causes.

Symptoms

We must consider

the endemic or epidemic constitution of the place.

The symptoms with which it makes its [illegible] are somewhat irregular, varying in different cases with the circumstances of constitution, season, and locality.

The paroxysm begins with a degree of chilliness, though there is not a formed rigor, to this, soon succeeds heat and dryness of skin, with uneasiness at the stomach and pains in the head, back, and limbs. The patient is anxious, [illegible]: his face is flushed: his eye muddy, red, and suffused. The headache is intensely violent: in some cases there is confusion of thought; or [illegible] [illegible] from the [illegible]. The spinal aching is intolerable. Pains in the limbs

are fever, and are situated in the joints and muscular parts, especially in the [illegible] of the leg.

The stomach is irritable and vomiting comes on spontaneously, or is excited by anything taken into it.

Its contents are thrown up, bilious, and large quantities of this mucous fluid, variously coloured.

There is much pain at the epigastrium, and the patient shrinks from pressure applied over that region. There is also a burning heat experienced at the epigastrium, and a sense of weight and hardness. The respiration is hurried, embarrassed, and irregular, sometimes sighing, followed with deep and heavy sighs.

The skin is dry, hard and hot, and causes a pungent sensation

to the fingers when applied [illegible];
The yellow hue first tinges the
eyes, then the forehead, neck, breast;
[illegible] the body: [illegible]
noticed until the last stage, and
becomes more perceptible after the
death. It differs from the ~~yellowness of~~ sallowness of
bilious remittents and [illegible] jaundice
in being darker and deeper:
[illegible]
The pulse does not bear any exact
relation with the state of the gen-
eral system. The [illegible] [illegible]
is frequent, hard, voluminous tense
[illegible]
[illegible]
it becomes red at the point and
edges [illegible]
vehemently by the patient. The
bowels are torpid and are dark
colored and acrid from the first:

The [illegible] 1st stage of the disease following the division so commonly recognized by writers into three stadia.

In this stage is comprised the whole of the febrile excitement which belongs to the attack. It has been [illegible] to have [illegible] over in four hours, and last between sixty and seventy, the average being not far from thirty-six to forty-eight.

2nd stage

Commences with an abatement of many of the preceding symptoms and has been improperly considered a stage of remission. The headache is relieved; pains in the back and limbs disappear; the skin is more pliable, cooler moister

The [illegible] [illegible], [illegible]
a little more frequent and softer
than in health, breathing easier;
the pain and burning of the stomach
lessened, its irritability not so urgent,
vomiting attended with less effort,
the face less flushed, the eye less
suffused and red, and on it a yellow
tinge is substituted. The well known
orange hue overspreads the surface.
It has been seen to pervade the
periosteum. This stadium lasts
but a few hours — never longer
than from twenty-four to thirty six
perhaps about twelve to eighteen;
when the disease if not subdued,
develops a violence and rapidity
of progress disproportioned to the
infeebled powers of resistance in
the constitution.
3rd stage The prominent feature in

[illegible]

The pulse sinks, is quick, [illegible], depressed. The skin [illegible] mahogany here, especially the face and hands; the discoloration may be removed by pressure. The tongue sometimes whitish, soft, swollen, moist on the sides, with a dark brown streak in the centre: it sometimes becomes dryish and very red, and smooth with fissures [illegible] offensive [illegible]. The stomach is so irritable that it retains nothing, the vomiting easy and frequent.

In the early part of the stadium the patient is hopeful, but as the disease advances he soon becomes conscious of his fate. The mind is often clear and calm. The stomach becomes more and more irritable. The mucous and fluids

thrown up become mixed with flakes of a dark color, this proportion becomes greater so as to resemble coffee grounds. This is black vomit the dreaded symptom. The [illegible] ejected is often astonishing. It escapes in the act of hiccoughing, and sometimes spouts involuntarily while the patient lies upon his back. Sometimes the contractile power of the stomach is lost; the belly is distended, a loud gurgling sound is produced by every movement of the body. The bowels so reluctant at first may now yield; the alvine evacuations become frequent and abundant consisting of a fluid identical with black vomit. The powers of life rapidly decline; breathing is laborious, with deep

sighing and moaning, an intolerable oppression about the precordia or epigastric region. The skin is cold and clammy; the eyes dim and hollow; the tongue black and trembling; there is low muttering delirium. Hemorrhage now ensues from the gums, tongue, fauces, nostrils, stomach, intestines, urethra, eyes and ears; and death closes the scene.

It assumes like other fevers a congestive disposition, In this form early and irretrievable collapse, unaccompanied with [illegible] and black vomit. In this form the [illegible] are almost uniformly marked by a bronzy or mahogany color of the skin. This is one of the worst symptoms: all the sensibilities seem blunted; the stomach is

not [illegible] on pressure; the bowels are insensible to purgatives: the skin becomes pale on pressure being made on it, slowly resuming its dark hue; sinapisms or blisters laid upon it are unnoticed, and if they produce inflammation the parts are apt to be [illegible] black and sphacelate. These malignant attacks generally terminate on the third, fourth, or fifth day.

The Duration of yellow fever differs relatively to the form it assumes. Congestive attacks terminate early, on the third and fifth days. The ordinary inflammatory cases die on the fifth, sixth and ninth days.

Recoveries are very slow apt to be harassed by the formation of abscesses on the body, which suppurate unkindly.

Relapses are very rare.

Prognosis

Yellow fever is viewed as one of the most destructive forms of pestilence. The percentage of deaths varies according to the malignancy of the epidemic.

Individual prognosis is modified by circumstances. The attack is apt to be violent among the plethoric. There is almost no hope for the intemperate.

The condition of the stomach is of great importance; everything depends on its power of retention and tranquility.

As regards black vomit the prognosis is unfavourable; this symptom cannot be regarded as diagnostic.

Dr Dickson of South Carolina says he has observed it in gastritis enteritis, bilious, remittent, catarrhal fever, pregnancy, variolous, drapery

puerperal fever and always attends rupture of the uterus.

Of the nature of black vomit much has been said. Dr Rhees of Philadelphia states that in a series of examinations with the [illegible] [illegible] [illegible] black vomit, he found innumerable animalculae. Comparative examinations were made of the discharges of the contents of matters expelled in other fevers, but none were [illegible]. It contains hydrochloric acid Autopsy.

The dead body is of a yellow hue. The blood is dark, and in many it is incoagulable. The heart soft and flabby, all traces of striation are absent, and a granular condition is left which is more constant than fatty degeneration. The lungs exhibit congestion. The brain is altered the mem-

[illegible] [illegible]. [illegible] [illegible]
from a straw color to a black
chocolate. [illegible] [illegible] [illegible] [illegible] pre-
-sent fatty degeneration. The spleen is
[illegible] [illegible] [illegible] [illegible].
Treatment

In treating yellow fever of the
ordinary inflammatory kind, the object
is to reduce the vascular excitement.
We should commence the treatment
promptly, as everything depends
upon the hopeful application of
remedies.

For fulfilling this indication
venesection has been resorted to.
Though experience has decided
that occasionally, it is not generally
useful. The cold bath is the
remedy now, when rightly pre-
-scribed. An emetic is useful if
the stomach is overloaded, but is

contraindication when this obstacle is absent. The sulphate of zinc is the best. The exhibition of purgatives forms an indispensable part of the treatment. Calomel is the best though slow in its effect it may be aided by a solution of sulpho-magnesia. These may be given alternately every two hours until they act efficiently. When this is effected lay aside the neutral salt and combine some diaphoretic as the pulvis antimonialis or James powder. By the employment of cataplasms and cold baths, or fomentations, cups, and mustard plasters on the epigastrium, [illegible] relieve [illegible] local inflammation and diminish diffused excitement, relax cutaneous constriction, lessen congestion by free mucous discharges.

Induce ptyalism and [illegible]

the patient.

The abortive treatment is of po-[illegible] if used in uncomplicated cases.

Rx

Hydrarg Chlor Mitis grs XX
Quiniae Sulphatis grs XXIV

S Take at one dose and follow by a dose of Oleum Ricini in four hours; the calomel and quinine to be repeated in six hours and continued if required.

The muriated tincture of iron has been strongly recommended. Veratrum Viride is also a useful sedative.

The acetate of lead et the sulphate of zinc for gastric disturbance are the best agents in use. Counter irritation must be resorted to; after the febrile stage, vesication. Lime

water, new milk, saline draughts, the carbonate of soda and potass, the vegetable acids — orange, lime and lemon juice, capsicum pill, creasote have all been pressed upon by their favourites.

If the vomiting of the adults flow an irritation of an inflammatory character it is better to abstain from all palliatives of the empirical cast.

The alkaline diaphoretic, and small doses of opium with ice in pellets are the best agents now indicated. The remission is best treated by the use of Quinine in solution. If a hemorrhagic tendency present itself, it is best treated with acetate of lead or nitrate of silver. Stimulants may be resorted to with caution. Capsicum is the best. Opium may be given.

When black vomit appears.
Sinapisms may be applied
extensively over the surface
In the third stage marked by
black vomit and the bronze color,
extreme debility takes place which
is best combated by stimulants.
Brandy in the form of milk punch,
Capsicum, Ammonia, Turpentinae.
are the best. Congestive form presents
a different plan of treatment from
the first; during the first stage.
The warm bath comes into action
assisted by friction, stimulating
enemata. an active emetic may
arouse the patient. Spts Turpen-
tinae. Quinine. Ammonia. Wine.
Capsicum. Ardent spirits. Opium.
These are the remedies that are
the last to be resorted to for
the salvation of the patient.

An
Inaugural Dissertation
on
Variola.
Submitted to the Examination
of the
Provost, Regents and Faculty of Physic,
of the
University of Maryland,
for the
Degree of
Doctor of Medicine,

by
Richard Emory
of
Maryland.
MDCCCLXI.

Dedication.

To Dr. W. S. Newman Gibbes, this thesis is most respectfully dedicated; as an acknowledgement of kindly favors received from him, even as from a father to a son. In thus finishing my last act in connexion with him as a student of medicine, I desire to express my wish that I may long continue in his good favor, and receive many more of those good lessons both in medicine and morals, which he has been kind enough to impart to me so often heretofore.

Should my career as a medical practitioner prove successful, and should I from the advice, and medical instruc-

tion given by him, he en-
abled to render any service
to my fellow man; I
hope I may never forget
that it was through his
instrumentality that I under-
took the study of my noble
profession.

"There is a tide in the affairs
of man, which if taken at its
flood leads on to fortune."
Should this prove the case in
my professional life, even
in a moderate degree, it
will be entirely due to the
expert steering of my frail
bark upon the rough waters
of uncertainty; by which it
was tossed at the time he
undertook the troublesome
task of directing my course aright.

That my worthy preceptor may receive the reward he so richly merits, and accept my most sincere, and heart felt thanks for the many favors received, is the earnest wish of his pupil,

R. Emory.

Oct. 1861.

Variola.

History. Attempts have been made by various authors at different times to prove the antiquity of smallpox.
Dr. Baron of Gloster entertained the opinion that smallpox is to be traced in the earliest writings of the Greeks, and Hebrews. That it was seen by Hippocrates, and commented upon by Galen.
He, (Baron) also contends, that the account of the plague at Athens, as given by Thucydides, presents as accurate an account of the leading symptoms of variola as could possibly be expected from any historian not medical. In this opinion Dr Baron is com-

tenanced by Salmasius, Hahn,
and more recently by Dr. Willan.

Rhazes, an Arabian physician,
and the first acknowledged
writer upon this disease, la-
boured to prove that Galen
had seen it; but with all
his enthusiasm for his
master, he acknowledged, and
was surprised at the unwonted
brevity and inaccuracy of his
discription. This may be
considered as decisive of the
question; but we may further
state that Friend and Mead,
authors of the highest repute,
after devoting great attention
to the subject, agreed that
there was no foundation for
such an opinion. We are
fully justified therefore in

adhering to the generally received opinion, that smallpox is a disease of modern origin. The first notice of a disease which exhibits the well marked features of smallpox is to be seen in the historical writings of Procopius, who flourished during the reign of Justian the first. It began A.D. 544 at Pelusium in Egypt, from whence it spread to Constantinople. Bruce in his travels found a manuscript which he thought proved that smallpox caused the army under Abraham, the Abyssinian viceroy to raise the seige of Mecca very suddenly, and unexpectedly. This was the first appearance of the disease in Egypt and Arabia.

It reached America about 1517.
In Mexico alone three millions
and a half of people were destroyed
by it in a short time.
The humoral doctrine which
prevailed in the schools during
the sixteenth century led to the
universal adoption of the hot
mode of treating pestilential,
and malignant diseases including
smallpox. Such was the theory
and treatment of smallpox at the
time of Sydenham, and such it
had long been. He commenced
by separating for ever, smallpox
from measles, with which from
the days of Rhazes, it had been
so strangely yet so obstinately
associated. He divided smallpox
into two kinds; the distinct
and confluent; and traced

with great accuracy the symptoms of both. But his chief merit lies in his criticisms of the prevalent treatment of smallpox, which caused him to be greatly culminated as an innovator, and homicide. He introduced the cooling system, including fresh air, light bed clothing, and abstinence from all cordial, and sweating medicines. Substituting acidulated drinks and opiates. Boerhave was the first to put prominently forward contagion as its direct exciting cause.

The theory and treatment of smallpox established by the labours of Sydenham and Boerhave, underwent no important changes during the last century; the attention

of authors being directed almost entirely to the new discovery of vaccination.

We now proceed to give a description of smallpox, and in the first place remark how diversified are the appearances it presents. Many causes contribute to this, but none so much as the previous condition of the system with reference to the contagion of smallpox. We will therefore consider the disease under three different aspects — First, as it occurs casually and for the first time, to persons who have undergone no preparatory process. This is natural smallpox.

Secondly as it occurs to those who in early life have undergone

the process of vaccination.
This is modified small pox.
Thirdly as it occurs to those
who have been inoculated
with variolus virus; the inoc-
ulated small pox.

First, Natural Small pox.

In considering natural
small pox it is convenient to
divide it into three stages
Viz — That of incubation,
maturition, and decline.
The first or stage of incubation,
may be considered as extending
from the time at which the
patient contracted the disease,
to the appearance of the eruption.
This varies considerably, being
usually from seven to fourteen
days. The reception of the
poison into the system in

the way of infection, takes
place usually imperceptibly
although sometimes it is sup-
posed to be marked by some
sensation, such as a disagreable
odor, a feeling of giddiness,
or sick stomach, or more
commonly by an inward feeling
of alarm. From this to the
appearance of the eruption fever
is present, varying in intensity
in different patients. Some
are languid, weak and unwell
the entire time, passing
sleepless nights and uncom-
fortable days, until about
the eleventh or twelfth; when
they are attacked by a rigor
varying in intensity and duration.
This is accompanied in some
cases with severe pain in the

loins, and epigastric region, and sometimes with vomiting; so strongly marked are the gastric symptoms in some cases, as to give the impression that it is a case of gastritis we have to treat. With this there is heat of skin, accelerated pulse, furred tongue, loss of appetite, thirst, and general weakness. These are the symptoms which usually precede, or introduce smallpox; and are exactly like those of other febrile affections. The most frequent peculiarities are, the severe pain in the back, and obstinate vomiting, which often resist all treatment. Other symptoms are occasionally present, as a tendency to perspiration, soreness of throat, coryza, sneezing,

and a sense of fatigue. A slight delirium sometimes occurs. In some cases the patient is stupid, while in others he is wakeful and restless. In children the disease is sometimes ushered in by convulsions. Usually upon the third day after the rigor, the eruption commences, often very minute at first, and scarcely perceptible. Minute red spots show themselves first upon the face, then the neck, and from thence downwards to the trunk, and limbs. The eruption is usually complete by the end of the fourth, or beginning of the fifth day, at which time the fever has usually disappeared. This is sometimes sudden, and even abrupt; the fever leaving as

soon as the eruption comes out.
The Second Stage, commences
as soon as the eruption is
fully out. This eruption is
at first papular, but upon the
second or third day a little clear
lymph may be seen at the
top of each papule, which are
thus converted into vesicles.
These vesicles are composed of
six or eight cells, tied together in
the centre, which for several days
is depressed constituting the charac-
teristic umbilicated appearance
of the small pox eruption.
An areola begins to form round
these vesicles upon the third or
fourth day of the eruption, dyeing
the intermediate portions of skin
a bright crimson hue. While
this areola is forming the vesicles

become full and tense, and by the time it is fully formed they are transformed from vesicles to pustules, the contained lymph being converted into pus. This pus gradually increases, filling and distending the pustules, breaking down the cell walls, and converting them in to single cavities. While these local changes are taking place, various sensations are experienced by the patient. In some cases very annoying itching, and tingling sensations are experienced. Sometimes there is a peculiar white eruption takes place upon the mucous membranes, being neither vesicular nor pustular; there is great sore throat, salivation and an abundant secretion of a viscid mucous

by the membrane of the mouth and fauces. During the maturation of the pustules the skin is always more or less swollen, and a feeling of heat and tension is often experienced by the patient. At this time a very disagreeable odor is exhaled by the patient's body, characteristic of the disease. About the eighth or ninth day of the disease a febrile action is again set up, constituting what is very properly called the secondary fever. This is entirely dependent upon the sympathy of the constitution with the local affection, and varies in intensity according to the abundance of the eruption, and usually declines with the pustules.

The third or Stage of decline, in mild cases is nothing but a state of convalescence; the pustules burst from the seventh to the tenth day, commencing as they formed, first upon the face and upper extremeties, and progressing downwards, those upon the feet and lower extremeties bursting three or four days later than those upon the face. In very mild cases the pustules do not burst at all, but dry forming dark, brown, hard scabs. About the tenth or thirteenth day the swelling about the face commences to subside, those pustules which burst pour forth a yellow pus, this concretes into a hard scab, and by the fourteenth day there is nothing left but scabs. These commence to fall off imme-

dialety, but the eruption upon the lower extremities is some three or four days later in maturing, and is at its height when that upon the face is declining. Many of the running pustules upon the extremeties form no scabs at all, their contents being absorbed, the pelicle of cuticle left, separates by desquamation. The eruption upon the mucous membrane is almost always resolved without the formation of ulcers, so it is not the pock upon the conjunctiva, or eyelid, that causes the opthalmia from which such serious consequences follow in severe cases. The scabs usually fall off between the fourteenth and twenty-first days, when there is any cutaneous affection

the pustules pass throught all their stages in about eight days. After the scabs fall off there are red blotches left upon the skin, which do not entirely pass off for two or three months. Some of the pustules especially those upon the face, by an ulcerative process destroy a large portion of the true skin, thus forming scars, or pits which are never effaced. After the scabs fall off the fever abates, the tongue cleans, the apetite returns, and the patient is soon restored to health. The disease lasts usually about three weeks.

Confluent Smallpox, is a greatly aggravated form of the disease. The initiatory symptoms are more severe, and when the eruption makes its appearance

the cellular membrane is from the first greatly involved. The eyelids frequently become so much inflamed and swollen by the fifth day, that the patient is unable to see. The parotid glands are very much affected, salivation taking place with great turgescence of the cheeks and scalp. The pustules do not fill, but appear flat, and doughey, and upon the face especially coalesce into one large sore, discharging an unhealthy ichorous pus. The constitutional symptoms accompanying this form of smallpox are very severe. The pulse is rapid and extremely debilitated, there is great restlessness and entire want of sleep. The eruption upon the mucous membranes is very intense,

they become so much inflamed,
and congested as almost to close
the passages lined by them.
The nose is frequently stopped
by a viscid, tough secretion, so
that breathing cannot be performed
through it. In some cases the
eruption passes down the larynx,
into the bronchial tubes, causing
cough, hoarseness, painful attempts
at expectoration, and sometimes
entire loss of voice. This is one
of the dangerous complications of
smallpox, causing death, some-
times by closing the rima glottidis,
and in some cases by clogging
the bronchial tubes with their
viscid secretion. In consequence
of this the blood ~~is~~ is not properly arterial-
ized, the surface therefore becomes
purple, and the eruption appears

a livid hue, the pulse becomes feeble and general prostration ensues. The head and face are enormously swollen, all the features becoming obliterated. The patient is occasionally troubled with phymosis or paraphymosis; tubules form in the groins; and the whole surface, if not entirely occupied by pustules, is covered by an eruptive eruption. In some cases violent delirium occurs; usually in the earlier stages. It is marked by an anxious and ~~wretched~~ expression of countenance, redness of conjunctiva and contracted pupils. The patient is most anxious to do some violence to himself, and should therefore be carefully watched. Cases of confluent smallpox complicated with delirium are extremely

dangerous, a large proportion
of them terminating fatally:
some by affections of the head,
and some by acute inflam-
mation of some other internal
part especially the pleura.
Another very serious circumstance
in confluent smallpox, is the
implication of the fluids. This
is caused apparently by an absorb-
tion of the pus from the surface,
and constitutes a form of the disease
called <u>malignant</u>. It is marked
from the first by a petechial erup-
tion, and an immense amount
of subcutaneous ecchymosis is present.
As the vesicles mature they fill not
with pus, but a thin ichor tinged
with blood. Hemorrhages take
place from all the mucous mem-
branes throughout the body.

Pregnant females when attacked by this form of the disease, invariably suffer abortion. The brain is not always, though usually affected. Patients labouring under this most horrible form of the malady seldom recover. Death usually takes place between the fifth and seventh days of the eruption.

Complications. Smallpox may attack persons at the time of seizure labouring under some other disease, as pneumonia, whooping cough, hepititis, or consumption; and these, or other diseases may come on after smallpox has been contracted, and declared itself. An infinate number of accidental symptoms will thus be added to those already

mentioned. Smallpox may also attack persons of a weak habit, or constitutions exceedingly imputed, and unable to cope with so formidable a disease. Under these circumstances the eruption is exceedingly tardy. Collapse without eruption; or in rather more favourable cases, large blebs filled with a thin ichor, and followed by a tedious and hazardous period of convalescence is apt to occur. This form of the disease was called by the ancient writers, watery, or bladder pock.

2d Varioloid, or Modified Smallpox.

When smallpox occurs a second time, whether after inoculation or after the disease taken in a casual way, it assumes a spurious form.

When contracted after vaccination, it also presents a different form from that which occurs in persons entirely unprotected. Other modifications have been noticed during epidemics, even before inoculation or vaccination were discovered. Such were the variolous fever without the eruption, ("Variolae sine variolis") the crystaline pock, horn pock, and wart pock, in which the vesicles instead of going on to maturition, dry up into small tubercles. All these are now understood to be owing to ~~the~~ a previous attack of the disease, to inoculation, or to vaccination. Since vaccination has been in use the number of cases of this modified form have greatly increased. The modifying, and

controlling influence of vaccination appears to be chiefly confined to the stage of vesication and pustulation; for although the initiatory symptoms, such as pain in the back, and constitutional symptoms, may be as severe as usual; as soon as the papulae make their appearance, the influence of vaccination becomes apparent.

2dly The eruption is less in quantity, and more limited in extent than in the common form of the disease. It shows itself principally upon the face and breast, and not at all or very scantily upon the extremities. In some cases however this does not hold good, the eruption comes out as thickly as in the worst form of confluent smallpox, but even here the

controlling influence of vaccination becomes manifest as soon as the papulae form.
The pyrexial excitement which might be expected to run high from the amount of surface affected, subsides immediately. Many of the papulae never advance at all towards maturition, and those upon the face advance so rapidly that by the fifth day they have matured. The pocks are horny, and speedily desicate, leaving for a considerable time afterwards tuberculous elevations upon the skin, and very unsightly red blotches; but these soon drop off, leaving no pits at all; and during the entire time of convalescence the patient is usually able to walk about, paying good visits, and enjoying

a good apetite. It is sometimes difficult to distinguish this form of the disease from varicella; but by tracing up the origin of the disease, and by its being capable of communicating the true malady the diagnosis may usually be made correctly. The mortality from varioloid is very much less than that from variola; varioloid very seldom proving fatal unless complicated with some other serious affection.

3d " Inoculated Smallpox.

Variola raged for many ages before it occured to scientific men, that its virulence might be decreased by any artificial means. When, where, or by whom, Inoculation was discovered is not positively known, but it has been

conjectured, that it arose in those countries bordering upon the Caspian sea, Circapia and Georgia; of this however there is no proof at all. The English received their first account of the practice from Constantinople, through Lady Mary Worthy Montague, about the close of the seventeenth century. Before this however, two different publications upon the subject had been made. First in 1713 an account of it was sent by Dr. Emanuel Timon, from Constantinople to Dr. Woodward his English correspondent. This gentleman had his paper published in the Philosophical Transactions the following year. Again in 1716 Dr. Pylarini published an account of it

in Venice. These publications however had but little effect, and it is probable the practice would never have become general, had it not been for Lady Worthy Montagne, and although she deserves great credit for her energy, there is some doubt whether the human race was benefitted by her labours.
The first operation in England was performed upon the daughter of Lady Mary Worthy Montagne in April 1721. After this the practice gradually gained ground for about twenty years, when it became very generally used.
In 1798 Dr. Jenner announced the discovery of vaccination, and afterwards the practice of inoculation almost immediately declined.

no satisfactory explanation
has ever been given why variola
when introduced into the
system by the cutaneous vessels,
should assume a form so different,
and so much more mild, than
when contracted by inhalation.
Some have attributed it to the
preparative process, but we can-
not allow this, when we reflect
that no such modification occurs
in the disease taken casually,
although during the incubative
stage the patient be never so
abstemious or careful. In a
large majority of inoculated
cases the eruption is of a distinct
kind, and scattered thinly
over the surface. Even should
it assume a confluent form,
the mucous membranes are

not usually affected, no hemorrhages take place, and as a general rule the cellular membrane not being affected seriously, secondary fever is absent or of a mild form. The mortality of small-pox is greatly lessened by inoculation. From the natural disease, the deaths are about three in ten, while from inoculation they are not more than three in a thousand. According to Lady Mary Wortly Montague the operation was performed in Constantinople by opening a vein in the leg, and introducing a small amount of matter, after which the wound was bound up. This mode was practiced in England at first, but subsequently they deemed it expedient to make

larger wounds. An incision about three fourths of an inch is made in the epidermis down to the dermis; upon this a piece of raw cotton is placed after being staturated with the variolus virus, and kept in place by strips of adhesive plaster, for twenty-four hours. At a later period this mode also fell into disuse, and a few small incisions were made in the arm about the insertion of the deltoid with a lancet armed with the virus. On the second or third day after the operation, the part becomes inflamed, an areola forms round it, and by the eighth day some pain, and stiffness are felt in the axilla, showing the poison has been absorbed into the general system.

On the seventh or eighth day, rigors occur, accompanied in some cases by faintness, sick stomach, and other of the usual initiatory symptoms of smallpox. On the tenth day. By the tenth day the vesicle at the seat of the operation, has become converted into a pustule which is now distended. By the fifteenth day this has scaled, and the emption generally has begun to mature. In some cases even a single pustule may be present, and still the system be sufficiently changed to produce security from a subsequent attack of the disease.

The treatment of inoculated smallpox, is usually very simple, a few doses of aperient medicine being all that is required.

such as infusion of senna, manna or Epsom salts. Should it assume an aggravated form, the same treatment must be used as is subsequently to be given as appropriate in cases of the disease contracted by inoculation.

Cause of Smallpox.

Contagion is universally admitted to be the usual, and in fact at present the only cause of smallpox. Although some cases of late have been published of this disease originating without the action of contagion, it is most probable that contagion would have been found the real cause if the matter could have been examined to its ~~real~~ true source. There are few persons not protected by a previous

attack, or by vaccination, who can undergo exposure to the contagion, and not contract the disease. The foetus in utero always has the disease at the same time its mother is suffering from it; and many have supposed that those persons who are found capable of resisting the action of the poison of variola, have undergone some change in utero, even although their mothers were not affected by the disease. The contagion acts through the air; by contact of the matter in the liquid or solid form with the skin or mucous membrane; or by inserting the virus under the cuticle.

Opinion is unsettled as to the time at which the disease is contagious, some apprehend it to be so only

after the pustules form; while others argue more correctly that it is so from the commencement of the fever. Certain it is that the body retains its power to impart the disease some ten or twelve days after death, even without actual contact with it. Some have imagined the contagion to reside in the odor given off from the body; but cases have communicated the disease which exhaled no odor. The contagious principle attaches itself to fomites, which retain it for months, and sometimes for years when they are kept from contact with the air. Air however has the power of disseminating and rendering it inert. There are no well authenticated cases

on record of a physician conveying the disease from one patient to another, where they resided in different houses. Efforts have been made to determine the distance from its source at which the volatile poison of variola will act. This it is impossible to determine, as it depends very much upon the concentration of the poison, and the epidemic condition of the atmosphere. Certain it is, that it will disseminate itself from a single apartment over a whole house, and frequently to neighboring houses. One attack of the disease usually protects the patient from the subsequent action of the contagion; but some cases are on record, in which it occurred a second, and

even a third time; but these occured during severe epedemics, in which the infecting virus, or epedemick character of the disease is strongly marked.

It is a question much argued, and never satisfactorily settled; whether smallpox at the present time, ever originates spontaneously or epidemically, without the action of contagion.

The case of the disease which disseminates the contagion, does not appear to influence the form or grade of the disease communicated; the mildest form originating the severest cases of the confluent disease, and vice vissâ.

Diagnosis.

After the disease is fully formed there can be little doubt as to its true character, even by the unprofesional; not so however in the initiatory stage. The prodromic fever does not differ from fevers generally, but there is usually severe pain in the back, associated with great irritability of stomach ascribable to no obvious cause; and if the patient had been exposed to the contagion, or the disease were prevailing at the time, our suspicions concerning its true nature would be strengthened. Should a papular eruption occur upon the third day, and the fever subside, we would be more

certain in our opinion; and should the eruption shortly become vesicular, there could be no doubt of its character.

Prognosis.

The unmodified smallpox is very disastrous in its consequences; upon an average one case in four proving fatal. Different formes of the disease vary in their mortality.

Distinct uncomplicated variola is seldom dangerous; where confluent, it is more to be dreaded; and the malignant almost always ends in death. Varioloid is seldom fatal, being usually more dangerous to the unprotected than to the person affected. The chances are better where

the disease pursues a regular course, and no complications occur; sometimes however in the distinct form the vesicles shrink, and the patient sinks without any apparent cause. Symptoms which may be looked upon as especially unfavourable, though not necessarily fatal are excessive lumbar pain; continuance of vomiting after the eruption has appeared, delirium and coma, great abundance of confluent eruption, the simultaneous appearance of the eruption over the whole body, a lividity or purplish hue of the eruption, petechiae and vibices with copious hemorrhage, imperfect development of the pustules, or their sudden subsidence without

an appropriate diminution of other symptoms, convulsions and coma in the advanced stage, the occurrence of pleurisy or pneumonia, suppression of the urine or involuntary discharge of it, or the feces, and lastly the formation of large abscesses about the commencement of disgranulation.
It is more fatal in either extreme, than at middle age. Plethora or debility are unfavorable. Pregnant females always abort, and usually die of it. The state of the constitution influences very materially the fatality of the malady. The most fatal time during its course is between the tenth and thirteenth days, the greatest

number of fatal cases
appearing to terminate
about this time.

Treatment.

For a long time the treatment
of smallpox was conducted
upon an erroneous principle.
Supposing the eruption to be
the only mode of eliminating
the poison from the system,
they endeavoured to produce
as copious a crop of it as possible.
For this purpose they kept the
patient extremely warm, giving
him diaphoretics, and in some
cases cordial medicines.
Sydenham was the first to
employ the cool treatment in
smallpox; but it was not fully
established until after the
introduction of inoculation

and then by the Suttons, two brothers; one of whom Robert, lived at Bury St. Edmunds; the other Daniel, at Ingatestone in Essex. These men became ~~succeeded~~ famous for their successful inoculations, and their secret lay in their exposing their patients often to a free current of air, supplying them freely with refrigerant drinks; and restricting them to a spare diet. This same plan should be pursued in the treatment of the casual disease when seen at its commencement. The object is to prevent a copious eruption, upon which as we have seen the fatality of the disease depends. Bleeding has been recommended in

the first stage to let out some of the regenerated virus, and also for its antiphlogistic powers. But at this time we cannot tell what form the disease will assume, and as the constitution requires all its strength in the suppurative stage of the confluent form, blood should not be taken unless it be strongly indicated by the strength of the pulse. We may abate the force of the eruptive fever, and keep down the number of pustules, by the exhibition of saline purgatives, so as to produce two or three loose stools a day in most cases, and by free ventilation of the surface of the body. The skin may even be sponged with

tepid water where the temperature is greatly elevated. When the eruption has come out, and the pustules are distinct and few, there is not much more in the way of medical treatment to be done, nor is there much danger to be apprehended. But if the pustules on the face be many and confluent, the patient requires a great deal of attention. Our business in these cases is to look out for, and meet unfavourable symptoms as they arise. About the eighth, or ninth day, restlessness and wakefulness are apt to occur. The appropriate remedy for this symptom in smallpox as in other diseases is opium in some

form. The good effects of opium in this disease when given in full doses at bed time, are often manifest next day. If the nutrition of the muscles showed progress tardily; if they should not fill up rapidly, or properly; or their contents become ichorous; - strong broths, or even wine may be given; The effect of these must be watched carefully, and adjusted to the exigencies of the disease in hand. When the disease assumes a typhoid form, it is customary to prescribe bark and acids in addition to the wine and opiates. The proper management of the patient during the secondary fever is - to keep the bowels moderately open,

and to give opiates once or twice a day to allay the irritability of the skin. The cooling plan of treatment must now be abandoned, and the strength of the patient supported by the repetition of such agents as are indicated by the condition of the pulse.

Various local applications have been recommended to allay the intolerable itching, which causes the patient to tear himself with his nails, and thus increase scars and pits. The best are — cold cream; a solution of common salt applied luke warm; or a liniment composed of equal parts of linseed-oil and lime water. This may be painted over the surface

from time to time with a camil's hair pencil.

The dysphonia which sometimes comes on late in the disease, is an ugly symptom; the best treatment for it is to blister the outside, and apply a solution of nitrate of silver (grs xx to water ℥j) to the inflamed mucous membrane. If these means be judiciously employed nothing more is usually necessary, and unless the case be a remarkably severe one, or the patient have an enfeebled constitution, recovery is apt to reward our labours.

Vaccination or Prophylaxis.

I have deferred the consideration of vaccination until now to avoid interrupting the regular account of smallpox. Considering it very intimately connected with smallpox, yet a subject of itself, a full account of vaccination furnishing matter sufficient for a large volume. I propose to consider it therefore merely as it pertains to smallpox. Under vaccination is comprised all that can be regarded as prophylaxis, in relation to smallpox; some have treated of inoculation as a preventative; but this surely is incorrect, for by inoculation we produce the disease itself.

The operation of vaccination

is a very simple one indeed;
consisting essentially of a few small
incisions in the skin with a
lancet armed with the virus of
cow-pox in an active state.
The seat of operation should be
protected from the irritation of
clothing as much as possible
during its progress. The most
convenient situation is the
insertion of the deltoid muscle.
The appearances presented by a
successful case of vaccination
vary considerably, although the
prophylactic powers may be the
same. The most usual appear-
ance of the seat of operation is as
follows — Upon the second or
third day, ~~the~~ the punctures
may be felt to be a little el-
evated above the surrounding

skin, and if examined with a magnifying glass, we perceive it to be encircled with a slight degree of redness. By the fifth, or sixth day, a distinct vesicle is formed, with elevated edges and depressed centre. Upon the eighth day it appears to be distended with a clear lymph. The vesicle upon this the day of its greatest perfection, is circular, and pearl colored; its margin is turgid firm, circular, and wheel shaped. Late on the seventh, or early on the eighth day, an inflamed ring or areola begins to form round the base of the vesicle, and with it continues to increase during the two following days. This areola is of a circular form, and

its diameter extends from one, to three inches. When at its height, upon the ninth or tenth day, there is often considerable hardness, and swelling of the subjacent cellular membrane. On the tenth or eleventh day, the areola begins to subside, leaving as it disappears, two or three concentric circles of redness. The vesicle or pustule, now begins to dry in the centre, and acquires there a brownish colour. The lymph which remains, becomes opaque, and gradually concretes so that by the fourteenth or fifteenth day, the pustule is converted into a hard round scab, of a dark brown colour. This scab contracts, dries, darkens, and about the twenty-

first day falls off; leaving a circular cicatrix, which is usually radiated, or indented with minute pits which are permanent in after life. These local changes are accompanied with fever, first from the fifth, to the seventh day, very slight and often unnoticed.

Again when the areola is at its height, about the eighth or ninth day the constitutional affection is more manifest than at any other time, the infant being restless and hot, with more or less disturbance of the stomach and bowels.

About this time if the patient be plethoric or the weather very hot, a lichenous eruption is apt to show itself upon the

extremities, and occasionally upon the trunk also. This lasts usually about a week. When the opiration is performed upon adults, or adolescents not previously vaccinated, the resulting phlegmon as compared with the description above, is apt to be retarded somewhat in its course; this is apt to happen also when virus is employed lately taken from the cow, more fever is usually present also, but eruptions are not often seen.

The rapid spread of vaccination throughout the world was almost incredible. The first publication upon the subject was made in 1798, and in 1803; a space of five years

it was known and used in
every country in the world.
2 That vaccination is not capable
of realizing the sanguine hopes
of its most noble discoverer, in
annihilating smallpox from
the earth we must admit; but
of its good effects we have
numerous examples.
It is proved in a statement made
by the committee appointed to
investigate Dr. Jenner's discovery
by the English parliament, that
vaccination when properly used
lessens very # materially the mortality
of this dreadful pestilence.
By this statement it is seen that
deaths from smallpox in 1800,
were 2409; and for fifty years
previous the average was 2018, per
annum. In 1803, deaths from

it were 1173. During this year some 12,288 vaccinations were performed, and in 1804 the mortality from small-pox in England was reduced to 622; a diminution of 1151.

Although in some cases the disease is contracted after vaccination, it appears, as has been before described, a modified form, and deaths from it are rare.

The only way we can realize the inestimable value of the use of this agent, is to look back at the ravages of smallpox where it was not used. For this purpose we will take a glance at its mortality ~~at~~ at different times and places. It has been estimated (Baron's life of Jenner) that previous to the discovery of

vaccination 45,000 persons
died annually of smallpox in
the United Kingdoms of Great
Brittain alone. According
to Robertson smallpox was
introduced into Mexico by a
negroe, in 1520, and proved
fatal to three and a half mil-
lions of people in that country.
It reached Iceland in 1707 where
1600 persons lost their lives from
it; more than a fourth of the
population of the island.
In Greenland during the year
1733, it almost depopulated the
country.
During the twelve years previous
to the introduction of vaccination
into Denmark 3,500 persons
died of smallpox in Copenhagen
alone. At present the disease is

scarcely known there.
By reference to the Indian report for the years 1837-8, 17,200 of the Sioux tribe alone, may be seen to have died of the disease.
In 1833, 12,000 of the confederated bands of the Sioux and Omahas, and in 1837, 400 of the Pawnees died of the same terrible malady.
In 1833 four hundred of the Sacs and Foxes, and during the same year also, four hundred of the Little Osages lost their lives from it.
Previous to 1833 (Schoolcraft) the Aspinaboines numbered 9,600, during this year smallpox broke out among them, and reduced them to 3,200. making the number of deaths 6,400.
In 1837 the tribes living upon

the upper Missouri, lost two thousand of their number from it. During the summer of 1837 the Mandans lost 13-00, the Minnetarees 3-00, and the Arickarees 15-00 of their number from smallpox. During this terrible pestilence various tribes in the vacinity of those above mentioned were visited and almost annihilated by the disease. The total number of deaths among the indians this year from smallpox was 10,000." The number of deaths from smallpox among the indians given in by reports at different times amount to 48,800.

From a table made out during an epidemic of smallpox at Brussels in 1828 it appears, that where the disease occurs after vaccine-

ation, the mortality is one in
every hundred, while in persons
unprotected it is one in four.
Notwithstanding evidence of this
kind, of the efficacy of vaccination,
our congress has seen fit to
withhold the appropriation for
vaccinating our poor unfortunate
western tribes, and abandoned
them to the ravages of this
most horrible pestilence.

An
Inaugural Dissertation
on
Rheumatism
Submitted to the Examination
of the
Provost Regent
and
Faculty of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
By Daniel L. Fleming

To

Nathan R. Smith, Prof. of Surgery in the University of Maryland,

Dear Sir, I know of no one, from seniority, or professional celebrity, who has higher claims upon my respects than yourself. Therefore Sir, permit me, to dedicate to you, my first essay upon Medical Science,

Especially, do I take pleasure in this dediction, when I proudly acknowledge you as my preceptor, and remember that most of those truths, which are to guide me in after life, have been drawn from you,

"Ah! weel I mind when first I saw,
Ye laying down the morbid law."

And now, with my best wishes for your health, and future professional honors, and the increasing prosperity, and advancement of the reputation of the University of Maryland, I remain with great respect your much obliged friend, and pupil.—

The Author.

Preface

In submitting the following Essay, to the inspection, and examination, of the Medical Faculty, of the University of Maryland, I feel that I shall require much indulgence, and forbearance, at your hands, it cannot be expected, that one so unaccustomed to write Medical Essays, should be able to bring forth much from the field of knowledge, with extended strides, or to bring up truth unsophisticated from the labyrinth of Hypothetical Speculations, or to tear the gossamer that binds the golden realities, which have been sought after for centuries, by the most stupendous and towering intellects, that graced the profession for ages, nevertheless, as her now stately proportions have been gathered in small fragments, and often, too, by youthful hands, I am encouraged to advance

with trembling steps upon her threshold, hoping at some future day to tread her spacious halls with manly steps, and bring to her stores another trophy won by patient toil, and love of science, innate of hypothesis, and metaphysical speculations have cumbered the writings of our predecessors, which was a cause of stumbling to those who read their works in search of solid truth, but this evil has very much vanished of late years, and the pathway of the medical student is now straight and clear, Indeed hypothesis is no longer tolerated in science, the worth of her empire has gone by, and rational induction is now the only principle, with which the botany of science progresses forward to conquest in the field of knowledge, If this is not so, I would ask, has genius abr-

ays wandered in vital quest, and has she brought back no substantial trophies from the region of disquisition, and the mystic labyrinths of Phylosophical argumentation, Medicine is a science, and challanges the world to stand before it and disprove its claims, alas her superstructure stands upon the rock of truth, her broad proportion transfixes the wisdom of the world, and her towering head pierces the Heavens, on high, and brings to Earth the testimony of our universal Creator, for he declares, that they that be sick, need the Physician, and not they which are whole, Without indulging any further in prefatory remarks, I shall launch at once my little Barque upon the medical Ocean, and steer faithfully by the compass, handed me by the University of Maryland towards the

port of Health, Expecting to arrive in safety, with uninjured hull, or rigging, and with the colors of my beloved Citizen Master, flying proudly at the mast-head, While my Cargo shall be—health for the Sick Soundness for the Crippled, ease for the [illegible], and Life—Life—Life for the dying;

Rheumatism

According to Dr. Chapman, the name Rheumatism first occured in Ballonius treatise, published in Paris in 1642. Being formerly confounded with gout, under the common designation of arthritis. Rheumatism is a constitutional affection attended with a peculiar irritation or inflammation. I propose to treat of this very common, and very painful disease, under the four following varieties.

1st the acute, in which violent local inflammation is attended with considerable constitutional disturbance, or Fever; 2nd the Subacute, in which the inflammation is less violent, and there is little or no fever, 3rd the Chronic, which is characterized by long duration, and the lowest grade of inflammatory action; and 4th the nervous, in which there is neither inflammation ~~nor~~ or fever, the disease consisting

exclusively in irritation, and that directed especially to the nervous tissue,

1st Acute Rheumatism

Symptoms. Course

Fever invariably attends this form of the disease, and is sometimes said to precede the inflammation, but that I think is rare, the primary symptoms are generally local. The disease may be confined to a single joint, or to a part or the whole of a limb, but more frequently, it affects several limbs, and different portions of the trunk, jointly or successively, and occasionally it involves almost the whole exterior of the body. The small joints, viz the fingers & the toes, are less frequently inflamed than the larger, viz, the ankle, knee,

wrist, and elbow. Sometimes the complaint begins with a feeling of numbness or stiffness in the part which soon amounts to soreness or positive pain, especially upon motion. In other instances, the first symptom is acute and violent pain. Heat and swelling soon come on, and when the pain has been sharp and lancinating, it is very commonly moderated after the tumefaction. Extreme soreness, however, remains and the slightest movement of the part occasions suffering. In some cases, the inflammation is confined chiefly to the neighborhood of the joint; in others it affects more especially the muscles,

in others again both structures are involv-
ed, and indeed all the tissues: the whole
limb being swollen, tense, and ext-
remely tender. In severe cases, the slig-
htest movement of the limb, or pressure,
produces so much suffering that the
patient does not dare to change his pos-
ition, and dreads the approach of any
one to his bed. Very soon after the seizure,
rigors and other symptoms of fever, followed
by an accelerated pulse, heat of skin, furred
tongue, anorexia thirst, and occasionally head
ache. Respiration is not sensibly disturbed,
while the disease confines itself to external
parts. The surface, though warm, is less hea-
ted than in most other fevers; often bathed in
copious sweats, of a peculiar sour and sickn-

ing smell. The bowels are generally constipated. The urine is scanty and high coloured, lateritious upon cooling. The brain is usually exempt from disorder: the patient seldom delirious, though often deprived of sleep by the violence of pain. The disease may run its course, without penetrating any of the great cavities. But often, either by simple extension, or by metastasis of the inflammatory action, various internal organs become affected, which very seriously complicates the disease. The most frequent of those complications, are inflammation of the heart, or its lining and investing membranes constituting endocarditis and pericarditis. The former, is much more frequent, and when

the latter occurs, it is very apt to be accompanied by the former. In the great majority of cases, both affections yield to proper remedies. Pericarditis is more immediately dangerous, endocarditis leaves the most unpleasant effects behind it. Whenever in the course of acute rheumatism, pain and oppression in the precardial region is present, difficulty, or hurried breathing, with or without cough, palpitation, disease of the heart may always be suspected. Next to the membranes of the heart, the pleura is most apt to be affected. The pleurisy of acute rheumatism does not apparently differ in anything from the disease arising from other causes. Bilious rheumatism, has sometimes been noticed, especially in

miasmatic districts. But more frequently the rheumatism is coincident with an attack of intermittent or remittent fever, exhibiting the bilious symptoms and paroxysmal character of those affections. The duration of acute rheumatism is uncertain, two to three weeks is the ordinary duration under judicious treatment from the beginning. The decline of the disease is indicated, first by the diminution of pain, softening of the parts, and an entire subsidence of the violence thereof. The patient becomes less sensitive to impressions from without, and the febrile symptoms are moderated or disappear. Some swelling, soreness, weakness and stiffness of the joints and muscles are frequently

left, after convalescence has been long established. More or less local disease is not unfrequently left after the fever is arrested, and the acute degenerates into chronic.—

Anetomical Characters,—the blood abounds in fibrin, and almost always exhibits the buffy coat when drawn during life, and allowed to coagulate. After death, the synovial membranes have been found red and thickened, and the liquid in their cavities simply increased, without material alteration of character. The various other inflammations which attend the disease leave the same effects behind them as under other circumstances.—

Causes,—Sleeping upon damp ground, wearing

wet clothes, exposure to cold rain, sitting in a damp cold room are examples of the exciting causes. There are also predisposing causes, the most prominent of which is a previous attack, the disease is also often inherited, existing in members of the same family, who thus inherit or not.

Prognosis. Acute rheumatism in adult life very seldom proves immediately fatal, of the complications, the cerebral, though comparatively infrequent, is, I think most fatal.

2nd Subacute Rheumatism.—
Symptoms,—the local, are not materially different from those symptoms described under the preceding variety. The pain, however, is usually less severe, amounting often only to slight aching or soreness. There is also less redness and heat, the swelling is less tense and elastic. In the acute we have the joints most frequently affected, while in the subacute the muscles. The pain is sometimes excruciating. Constitutional disturbance scarcely amounts to fever. This variety of Rheumatism is peculiarly liable to metastasis, more so than the acute or chronic. The muscles situated in the small of the back are also liable to be

attached. Constituting what is known as
Lumbago, - and is recognized by the occurren-
ce of a sharp pain, in that region, confi-
ning the patient to bed, from which he
cannot move without exquisite suffe-
ring. The effects of motion, tenderness on pres-
sure, are sufficient to distinguish it from
the violent pains of malignant fever.
From inflammation of the kidneys, it
differs in wanting the irritation of the
urinary passages, - nausea and vomiting
which characterize that disease. In the Hip-
Sciatica, - in this the parts about the
hip are attached. The disease is sometimes
seated in the muscles, sometimes in the
joints or ligaments of the pelvis and occa-
sionally there is an union of the sciatic

nerve, showing its tenderness along the course of that nerve. The steadiness of the pain, which is rather dull than acute, is diagnostic of the affection. —

Causes. The causes are the same as those of the acute variety. The complaint is often the result of exposure to cold. Some individuals have a peculiar predisposition to the [illegible] of rheumatism.

Diagnosis. The suddenness of the attack, the severity of the local compared with the general symptoms, the sharpness of the pain upon movement in which the muscles are concerned, utter absence of any tendency to suppuration, are characters by which subacute rheumatic inflammation may be distinguished

from common inflammation occupying the same parts.

Prognosis,— This is rarely otherwise than favourable. The disease is rarely even fatal, unless it seizes upon some vital organ, as the stomach, brain, or heart.

3rd Chronic Rheumatism

This may occur as an original affection, or as the consequence of an acute or subacute attack; but more often I think as an original affection. It may exist in the fibrous, synovial, or muscular tissue; but more frequently in the joint. In relation to the joints the swelling is generally not great, unless the synovial membrane is affected, when there is often tumefaction from the effused fluid. The pain is obtuse and aching rather than acute, often increased by warmth of the bed at night, and usually worse in damp chilly weather. The patient is frequently able to foretell a storm, from the pain produced by damp cold

winds that precede it. There is complete
absence of fever generally. The joints
are often distorted by thickening of
the ligaments, contraction or thick-
ening of the muscles and tendons.
The disease may generally be relieved or cured
for a time but is exceedingly apt to
return. The duration & the form of the
rheumatism altogether uncertain. It may
continue for months, years or a lifetime.
Many persons affected with it have intervals of
comparative comfort, recovering health more
or less completely during summer, to relapse
again in winter, or varying with the condition
of the weather. The causes, are the same, as of the
acute, influenced more however by age. The
old are peculiarly liable to Chronic Rheumatism

24th Nervous Rheumatism

Rheumatism very often appears this form of irritation, without the least sign of inflammatory action. It may be directed especially to the nervous system, evincing itself by pain, or other disordered sensations known by the irritation alternating with, or superseded by inflammatory attacks of Rheumatism. But the particular disorders of sensation and function, fall more particularly under the head of gout. Therefor I shall confine myself with the mere mentioning of the disease,

Treatment

1st of Acute Rheumatism.—
In the fibrous or genuine forms,
with the bounding pulse, the flu-
shed face, the high inflammatory
fever, bleeding should be employ-
ed with a freedom proportionate
to the vigour of the patient's constitu-
tion, and resistance of the pulse, But
I think it is in very few instances, that the
disease is extinguished by blood-letting.
The advantage of blood-letting, is only the
partial relief which it bestows; and the
preparation of the body for other reme-
dies.— Calomel, Opium, purgatives
and Colchicum.— In the commence-
ment of the disease, the bowels should
be evacuated. and is deemed advisable,

take blood from the arm, Opium and Ipecacuanha may be given at bed-time, to allay the violence of the pain, and procure sleep. A grain of each, repeated, if necessary, at the end of two hours, and increased as the system becomes accustomed to it, will be sufficient. The advantage also of Calomel, at an early period, with Opium and Ipecacuanha, in doses of two grains at bed-time, with a view to its alterative influence, cannot be mistaken. The plan of using Calomel and Opium, known as Hopes treatment, is I think very efficacious. The plan is discribed as follows:— After a full venesection, or even two, in the robust, but without any in the feeble

and delicate, eight or ten grains of Calomel, with a grain and a half of Opium, according to the age of the patient and the severity of the case, are administered every night, and followed every morning by a strong black dose, sufficient to ensure four or five stools at least.

With this treatment is combined thrice a day, a saline draught containing from fifteen to twenty minims of the vinum Colchici, and five grains of Ivory Powder, the Calomel omitted when the swelling and pain abate, or the gums become tender. Should the heart or brain become involved, in the course of the disease, leeches or cups must be used freely, followed if necessary by large blisters. Along with these

means, Calomel given promptly and freely, so as to induce a speedy ptyalism. Efforts should be made, in case of retrocession of the external disease, to invite it back to its original seat by blisters, and the action of rubefacients, or sinapisms, and, should, the feet have been the part affected, hot stimulating pediluvia. When an adynamic condition of system comes on in the course of the complaint, quinia, will not only obviate the debility, but will greatly relieve if not cure the disease. In the form of the disease which occurs in miamatic regions, known as bilious rheumatism, Calomel should be given as a cathartic freely in the early stage, and recourse be had to quinia, Should the disease be

confined to one part, advantage might result from bleeding, or should the spinal column be found tender, and painful, cups applied to the tender part will generally give relief. Towards the decline of the complaint, when the parts are still somewhat swollen and painful, but the fever has subsided, Camphorated Liniment, the camphorated tincture of Soap, and Laudanum, with the addition of Spirits of ammonia, may be advantageously applied. Flannel may be used with advantage, when the case threatens to assume the Chronic form.

Among other plans of treatment, that of large doses of the Bi-Carbonate of Potash. The efficacy of this salt in Rheu-

matism, is the waste and alteration it produces on the tissues at large. It is well known that the fibrine of the blood, in rheumatism becomes impoverished and even quadruppled above its usual healthy standard. This increase of fibrine from three parts in the thousand its normal amount, to twelve parts, is an accumulation of effete material in the blood, or rather the result of retrograde rather than of formative changes. This large amount of fibrine in the blood, is one of the characteristics of acute rheumatism, and as the alkalines partly have the property to a great degree, when given in large and continuous doses, of destroying the plasticity of the blood, and diminu-

ishing the quantity of fibrine it contains, is enough within itself, to suggest the proper use of these remedies. But not only do the alkalies lessen the fibrine, but like mercury they increase the waste of tissues, as well as the elements of the blood itself. — and when disease is present, the morbific principles that this fluid contains. And in this way principally, it proves beneficial in Rheumatism. I think the Bi-Carbonate is preferable to both the Carbonate and acetate as it is less irritating, and to Mercury because it is more manageable. It should be administered in large doses, at least XXX to LX grains every two or three hours if the stomach

will bear it. And at the same time, the patient should be nourished and nutritious diet. This plan of treatment is inapplicable to cases occurring in debilitated and ill nourished individuals, therefore it is not a specific. When it acts favorably, the quantity of urine becomes increased, and there is also an additional amount of solid material contained in it. This increase is not so much owing to stimulation and increased function in the part of the kidneys, as because the remedy has produced additional waste, and may, therefore, provided more material for these organs to excrete.)

2nd Subacute Rheumatism.

In this form, as well as in the more acute form, the alkalies may be used with much success, keeping the bowels free by laxative medicine. Colchicum also displays very strong powers in this variety of the disease. It may be given alone in doses of twenty drops of the wine of the root. Aconite, belladonna, Stramonium combined, variously combined, have been recommended, in obstinate cases.

Topical treatment. Should the inflammation be considerable and fixed, as in carditis and pleurodynia, cupping or leeches are often very useful, but in the majority of cases, the disease yields without them. The joints should be protected by flannel, as in acute cases of rheumatism. Ointment of iodide of potassium may be used with benefit.

Chronic Rheumatism.

The first indication is to protect the patient against atmospheric vicissitudes by warm clothing; they should be clad in flannel from the neck downward. Warm bathing is of great service; baths of salt water, of a temperature not less than 100°, that they may act as stimulus to the cutaneous circulation; to this may be added friction with stimulating liniments and also, internal stimulation may be resorted to — Turpentine, Cod Liver Oil; guaiacum, and the celebrated Dovers Powder. The Iodide of Potassium may come into extensive use, for the relief of chronic rheumatism and is most certain of acting beneficially when that fibrous part, the periosteum, is principally

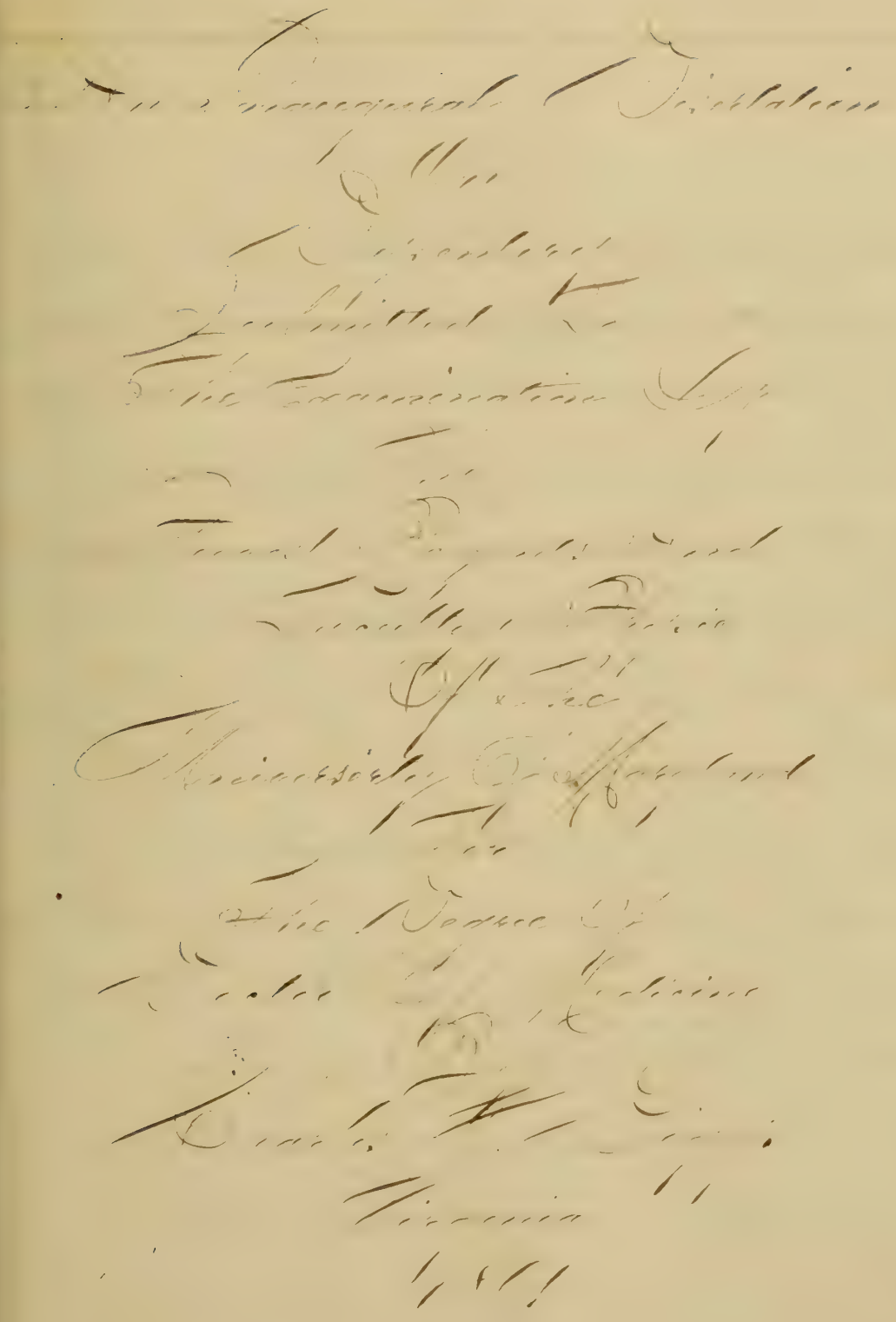
affected. Where there is nodes, and chronic thickening The Iodide of Potassium may be given in the ordinary doses; five grains ter die, and as a general thing the patient will sleep without Opium, and in a week or two the nodes will pass away, and the patient be perfectly well.

Now Gentlemen,—If I have been successful, even in securing your forbearence, and toleration. I shall greatly congratulate myself, and feel grateful towards you. Small efforts are not to be dispised, as a grain of sand becomes the nucleus for the mighty rock, little streams make up the Oceans expanse; and A.B.C. makes the stand point upon which

the Son of Literature first stood. I shall go forward in the discharge of my professional responsibility confidently relying upon the solid truths which have been taught, in the different chairs of my Alma Mater, and shall labor to wreathe for myself a chaplet of honor, and endeavor to throw another scintillation of glory upon the shining dome of my already renowned Alma Mater, And now Gentlemen.-

Faculty. Farewell, may you long live to honor our great profession, and may the University of Maryland like the sun become the great light and centre of our medical Literature, whilst her Alumni shall reflect back her well learned glory.-

The Author



Dedication

To Wm. E. Taylor, Esq.

of Virginia

It affords me the highest degree of satisfaction dear Sir to have an opportunity of thus acknowledging my gratitude to you for the numerous services you have rendered me both in your medical and private capacity. It was under your guidance that I commenced my medical studies, which has been to me the happiest period of my life. That you may long live to enjoy that health you have in so eminent a manner restored to others is the fervent wish of your friend and former pupil.

Charles F. Riggs

Preface

In deciding on a subject for a dissertation, many difficulties have presented themselves. The great variety of [illegible] which are interesting to Physicians, have already attracted the attention, and exhausted the ingenuity, of other candidates for medical degrees. Independently of other [illegible], all diseases have been treated of by medical writers of the greatest note, in whose discriptions and modes of practice I could not have flattered myself, with the hope of making any improvement.

The time-honored rules of this institution [illegible] it necessary that a candidate for medical honors shall compose a dissertation on some subject connected with

medicine, as a test of his abilities; of course however inadequate I may be to the task, I must submit. Theses in general, however are but extracts from such authors as are put into the hands of student[illegible] dressed in a somewhat different garb; and ornamented by modern improvement in language... little new can now be thought of. I shall therefore not make any vain attempt at originality. And yet I can[illegible] [illegible] I feel considerable diffidence in submitting this [illegible] and were it not an indispensable one, I would much prefer to omit it. No person can be more sensible than I am of the imperfections of the following essay: but I trust that my teachers and the short time [illegible]

tonic and stimulating to preserve the natural tone of the alimentary canal, and [illegible] debility.

Cold should also be enumerated among the remote causes. This acts by accumulating excitability, and checking perspiration.

Predisposing cause is debility.

The exciting causes of this form of disease are the usual exciting causes of other forms. They are such as act on the system, and increase the frequency and force of circulation, without acting peculiarly on the alimentary canal; and such as act more immediately on the alimentary canal, thereby extending their morbid influence over the system.

From the numbers afflicted with form of disease, immediately after being exposed to the noxious effluvia evolved from the excretions of a dysenteric patient. We have some reason to believe that such effluvia is an extremely powerful exciting cause. This is more especially the case, when the Dysentery a highly malignant grade, from the combined operation of diet, drink, occupation, and the state of the atmosphere.

Treatment.— This to be rational, Dr Wood says, must vary with the degree of violence in the disease, the existing state of the system, and the diversities arising from associated affections. Bloodletting is not necessary in all cases, and in the adynam

Dysentery.

The Philanthropist in casting his eye around him, traces with pain, the melancholy tokens of misery, woefully depicted in the countenances of his fellow creatures. Many are the causes that give birth to these gloomy, and ill-boding signatures. Among the most distressing and prominent of which is disease, the scourge of human existence in every age, and in every country. To alleviate misery, and enable man to enjoy an extensive portion of happiness, has been the first and most anxious emotion that has touched the bosom of every rational, humane and [illegible] inquirer.

Hence the exertions of man have

[illegible] great [illegible] and [illegible], en-deavoring to unfold the nature of disease: to discover thereby the means of preventing or removing, all illusive and [illegible] appearances that it assumes in attacking the human system. Discouraging to be told, the very causes that _probably orig-inate_, and which undoubtedly nourish life, by a few degrees of variance become its common and too often notorious enemy.

Added to this, there is a tendency in the animal system to its own destruc-tion."

"The aged worn fibres goaded to contract,
By repetition palsied, cease to act;
[illegible]
Chill the dull nerves, the lingering currents freeze;

Organic matter, unreclaimed by life,
Reverts to elements by chemic strife."

But happily for mankind, the present era in medical science is distinguished for an unity, simplicity, efficacy in the treatment of the laws of organic matter when deranged, which is truly sound and highly consolatory both to the physician and patient. Theory, observation and experience have each received their respective restrictions from the improving hand of time, and have now assumed their appropriate stations in relieving diseased nature. It is a remark too often made, that truth in theory leads to error in practice. This opinion remarkable only for its absurdity, should have long

[illegible] sound [illegible] from the path[illegible] [illegible] of medicine?"

Effects implies causes; certain causes influence certain states of the animal system, give rise to inevitable and invariable results. We know that effects may be modified, prevented and removed by an accurate knowledge of their causes.

It is admitted that many imaginary causes, that is theories, have been introduced into the science of medicine; each century has been distinguished for its erroneous theories; but because the human mind, in this respect, has in numerous instances, led to error are we to infer that such shall eternally be its inglorious doom?

Causes and effects do exist. The operations of nature are connected, and it is by a knowledge of this connection, that every art must be finally matured, its certainty permanently established, and its utility more universally disseminated.

Strictly speaking spontaneous [illegible], whether we view the mind or body, seems not to exist in nature. Necessity governs [illegible].

Dysentery is defined by Dr Wood to be an inflammation of mucous membrane of the colon and rectum, characterized by small mucous or bloody evacuations, griping pains in the abdomen, straining at stool and tenesmus. The disease may be acute or chronic. It occurs at those times, and in

those states of the atmosphere that are [illegible] able to the generation of the remittent and intermittent forms of fever, together with diarrhoea, bilious colic, and cholera morbus.

It assumes a mild, inflamatory, or malignant aspect, as influenced by the causes preceding, and the circumstances attendant on its evolution.

Every form of disease attacking the animal frame, invariably fixes on that part, which under the action of the three exciting causes, will most readily assume irregular or diseased action. If we examine this part, we shall find it to be that in which stimuli, either from their excess or deficient action, have induced debility in the greatest degree. Now, the causes induc

ing the Dysentery and the mode of its occurrence almost afford us strong arguments that the alimentary canal is the part peculiarly acted on by remote and exciting causes; and further that this part, in obedience to the laws of nature too often deleterious, is the part to put on diseased action.

Cold is frequently one of the exciting remote causes of the Dysentery: but unless the alimentary canal is previously debilitated, such will not be its influence.

Cold is also the most frequent remote cause of Pleurisy: but how rarely indeed is this form of disease accompanied with those characteristic symptoms that have given name to the one under consideration. If, in the many instances of Dysentery brought

in by the causes mentioned, the alimentary canal had not been particularly and [illegible]ly disposed to put on irregular action, when an increased natural, or an irregular action had commenced in the general system or blood vessels, it would not so immediately have formed such an outlet, and appeared in so painful and troublesome a form.

It is true that other forms of disease are attended with many symptoms common to dysentery, and it is observed to be true that those forms of disease change into it; but are usually found to occur at the same time and in similar states of the atmosphere; and hence it may be safely inferred, that very nearly the same combination of causes is requisite to the production of each.

Symptoms. This form of disease commences sometimes with caliginous, and at others with a laxity of the bowels, continuing in some instances, two or three days, without being accompanied with any painful symptoms. "In most cases the disease begins with griping, and a frequent inclination to go to stool." The desire to evacuate the bowels becomes more frequent, while the tormina that precedes the discharge of mucous or faeces, and the tenesmus that follow such a discharge, are both greatly increased. Nausea and vomiting often follow the symptoms just mentioned.

The pulse is either natural, full and strong, [illegible], small, frequent, and quick, or depressed. The [illegible]

the intermittent at first, but afterwards the remittent.

This form of disease is said to be commonly [illegible] with lassitude, slight rigors, disorder of stomach, and bilious vomiting." As the Dysentery advances, the symptoms enumerated increase in violence, and unless they be subdued by the powers of medicine, the last stage will soon arrive attended with a small and frequent pulse, black tongue, sometimes a discharge of black matter from the stomach, constant hiccup, sometimes a total loss of sensibility, extreme weakness, cold extremities, and finally death.

Discharge from the intestines. This varies in its appearance, consistence and nature. Faeces are sometimes discharged in the form of balls of a firm yellow consistence.

When the Dysentery commences with costiveness, this is a common result, and the pain in these cases is much more violent than in other cases where this form of disease commences with a laxity of the bowels, and is followed by a more immediate intestinal discharge, sometimes the faeces are fluid, and intimately mixed with mucous, or streaked with blood; sometimes there is a profuse discharge of mucous, unaccomanied with either faeces or blood; sometimes a discharge of gravmous blood devoid of both mucous and faeces, and at others an intimate mixture of the whole of these matters, takes place. An apparently membranous substance is often discharged, which has been

taken from a portion of the villous coat of the intestines, but which afterwards [illegible] to be nothing more inspissated lymph or mucous.

Pathological Character. Inflammation of the mucous membrane of the rectum and lower portion of the colon is always evinced in death from this disease. Ulcers sometimes exist, and occasionally gangrenous sloughs are found. The liver is often diseased, especially in the [illegible] of tropical latitudes.

Remote causes. These may be divided into such as act on the system, inducing general debility, without acting with peculiar force on the alimentary canal, and such as act immediately on the alimentary canal, inducing at first

topical and then general debility.

Heat and miasmata in conjunction appear to be the chief remote causes of this form of disease. They also frequently act as exciting causes, when the atmosphere is excessively heated, and at the same time charged noxious particles, proceeding chiefly from the putrifaction of vegetable substances, the secretion of bile, as well as its excretion is greatly increased, and this together with its accumulated acrimony acting on the alimentary canal, induces in that part a morbid state highly favorable to irregular action of the application of exciting causes.

Vegetable diet has a tendency to induce the Dysentery. It is not sufficiently

ic form would be decidedly injurious.

When, however, the state of the atmosphere [illegible] violent inflammatory action, and when the Dysentery is followed immediately after its commencement by a morbid pulse, Bloodletting should be resorted to. The quantity of blood to be drawn at one time, or the frequency of repetition in such cases, must be entirely at the discretion of the physician.

The use of emetics seems to depend chiefly on the degree and extent of morbid action in the alimentary canal. Given early in the disease they frequently act with the happiest effect; especially when the stomach is highly deranged as is manifested by a loathing.

of food, nausea and bilious vomiting. Tartar emetic and ipecac combined will answer very well; but the latter alone from its mildness is perhaps preferable.

It is very rarely indeed that cathartics may not be advantageously used in Dysentery. They are peculiarly well adapted to its removal, by compelling the intestines to throw off a vast accumulation of sordes and thereby relieve themselves from a constant and painful source of irritation. Those cathartics that procure sufficient evacuation, without acting powerfully on the intestines, which are at this time in a highly excitable state, will be employed with the greatest advantage; of these castor oil

is in all probability preferable, and may be administered in the form of oleaginous mixture, combined with a little laudanum if necessary.

In the mild and simple inflamatory state of the disease there is nothing better adapted to its removal than one of the neutral salts, as sulphate of magnesia or tartrate of potassa and soda. But should the Dysentery assume a highly inflamatory grade, and powerful means be necessary to check its rapid progress, calomel, may be administered with infinite advantage.

In ordinary cases in doses of from five to fifteen grains to be followed in from four to six hours after with an adjuvant.

Opiates are invaluable and will be [illegible] administered after inflamatory action has been subdued. If the stomach be too much irritated they should be thrown up the rectum.

Among the local remedies as highly important may be enumerated fomentations and emollient cataplasms to the abdomen and the warm hip bath. Blisters often prove serviceable by causing the translation of morbid excitement from one part of the system to some other part. They should be applied to the wrist and ankles, in preference to the abdomen where they prove equally serviceable and are attended with fewer distressing consequences.